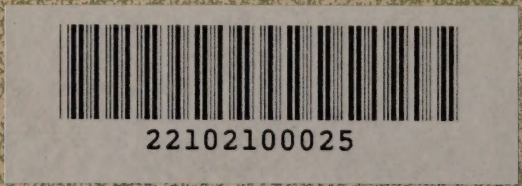

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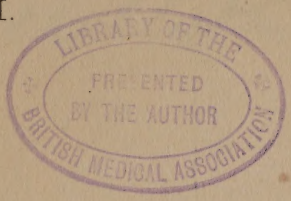
Thomas Ewing

MEDICO-LEGAL STUDIES,

VOLUME III.



BY

CLARK BELL, ESQ.,

Of the New York Bar.

Editor Medico-Legal Journal.

Published by the Medico-Legal Journal,

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1893.

Compliments of the Author

This volume is one of an edition of five hundred, of which this is No. 186

DEDICATION.

To the memory of—

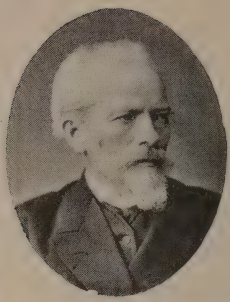
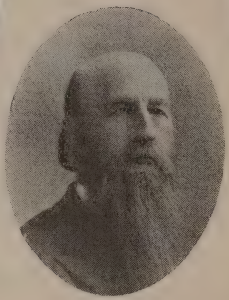
HON. E. E. BERMUDEZ,

CHIEF JUSTICE SUPREME COURT OF LOUISIANA,

An upright, just judge, an honorable gentleman, a wise and discreet counsellor, a warm, true, and faithful friend, an affectionate husband and devoted father, I make this tribute to one whom I was proud and glad to call my friend.

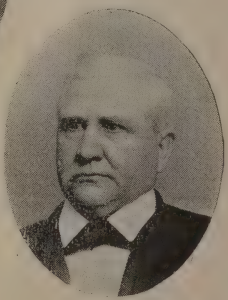
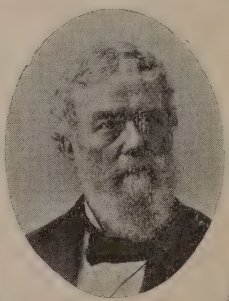
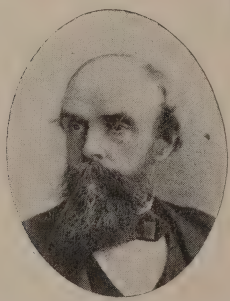
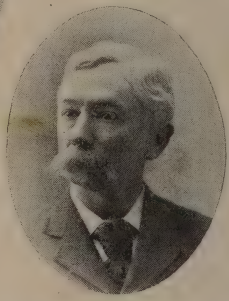
New York, January, 1893.

CLARK BELL.





EMINENT MEDICO-LEGAL JURISTS AND MEDICAL MEN OF THE MEDICO-LEGAL SOCIETY, AND OF THE INTERNATIONAL MEDICO-LEGAL CONGRESS OF 1893.

PROF. DR. JEAN MIERZEJEWSKI, of St. Petersburgh.

PROF. DR. FRANZ VAN HOLTZENDORFF, of Munich.

EX-JUDGE ABRAM H. DAILY, President-Elect Medico-Legal Society.

DR. F. E. DANIEL, Austin, Texas.

A. F. EGGLESTON, ESQ., (State Attorney,) Hartford, Conn..

EX-JUDGE A. J. DITTENHOEFER, of New York City.

JUDGE DAVID H. BREWER, Supreme Court of the United States.

CHANCELLER JOHN A. FOSTER, of Alabama.

JUDGE MATTHEW P. DEADY, of Oregon.

CHANCELLER COBB, of Alabama.

DR. ROBERT J. NUNN, of Savannah, Ga.

DR. J. T. SEARCEY, of Alabama.

PREFACE.

I have found time in an active professional life to write occasional sketches upon medico-legal topics, some of which were read before the Medico-Legal Society of New York, and others were written for the editorial columns of the *Medico-Legal Journal*.

Those contained in the present volume are such as have been thus prepared since January, 1891, which I have collected in this form to preserve them for reference and for the benefit of students of forensic medicine.

The first two series of the forthcoming volume of the History of the Supreme Court of the States and Provinces of North America, edited by myself, have appeared just before the publication of this work, and I take pleasure in presenting in the illustrations of the present volume portraits of members of the Bench of the Supreme Court selected from those series from the States of Texas, Kansas, New Jersey, and Oregon, as well as of others identified with the Medico-Legal Society and its labors, and the American International Medico-Legal Congress of 1893.

Dated, New York, January, 1893.

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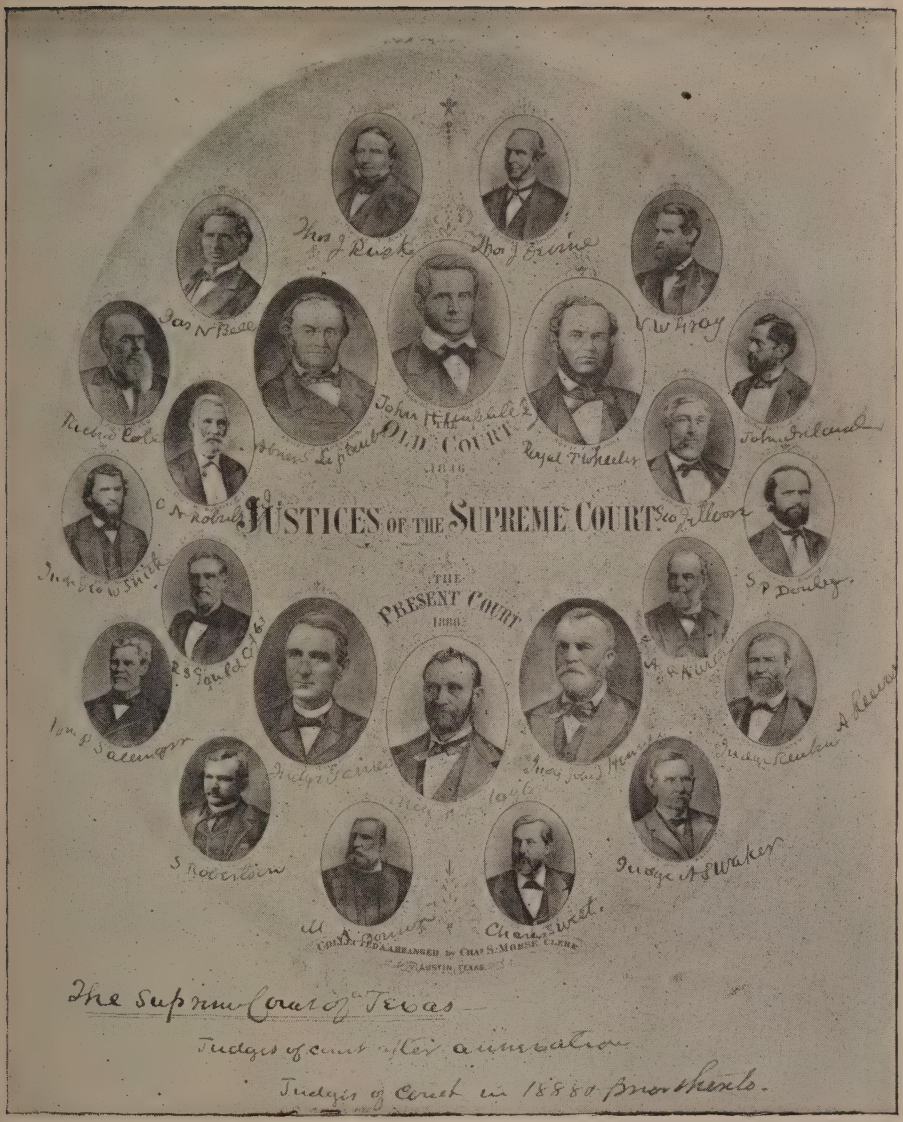


The Supreme Court of Texas

Judges of court after organization

Judges of Court in 1880 Brown Texas.

HYPNOTISM AND THE LAW.

By Clark Bell, Esq.
President International Congress of Medical Jurisprudence for 1892.

A large part of the session of the Medico-Legal Society of February, 1891, was given to the discussion of the legal questions which had been formulated by the Standing Committee on Hypnotism, and made the standing order for discussion, viz:

1. Has the sensitive sought the operator, or has the operator used undue influence to gain control of him? 2. Are proper witnesses present? 3. Are possible elements of error eliminated, such as self-deception, simulation and malingering? 4. Is hypnosis a justifiable inquisitorial agent? 5. Do we need a reconstruction of the laws of evidence in view of the perversion—visual and otherwise—created by the trance? 6. Is any revision of the Penal Code desirable in view of these facts? Finally, should there be legal surveillance over private experiments or public exhibitions?

The Eyraud Bompard case, tried at the Paris Cour d'Assizes de la Seine, had attracted the attention of the world, and the sharply-defined lines that marked the divergant schools of Nancy and La Salpetriere, was arousing deep interest in scientific circles, both sides of the Atlantic, which was not greater than the general public interest everywhere manifested by laymen.

Brouardel and the disciples of the schools of La Salpetriere show by their testimony, that they regard hypnotism as a pathological condition, peculiar to hysterical or other nervously indisposed but peculiarly susceptible persons, characterized by the three periods of cataleptic-lethargic sleep and somnambulism, into which the subject could be successively thrown by manipulations or manœuvres of various kinds. That it was, so to say, a diseased state of the subject susceptible to these influ

ences and conditions which occasionally occurs, but rarely in persons of normal and healthy condition.

The report of the experts, Dr. Brouardel Motet and Gilbert Ballet, in the Bompard case, show this was their view.

The school of Nancy, on the contrary, affirms that nearly every one, is subject to hypnotic influences, naming 90 per cent. of the human race, and that at least 50 per cent. can be placed in the somnambulistic state. They discard the theory that it is a diseased condition, or only felt by the hysterical or weak mentally, but aver that hypnotism is only a manifestation of a natural phenomena.

Prof. Liegeios and his *confrères* regard hypnotism as a psychological condition. Prof. Brouardel and his associates as a pathological state.

This trial does not, therefore, clear the air, of the difficulties of the Medico-Legal inquiry, whether crime can be committed by the suggestion of the hypnotizer, of which the subject is the innocent, and also unconscious actor.

Bouardel believed Bompard responsible. What most interests us now is the inquiry, can crime be thus committed by suggestion?

The exponents of the Nancy School show very clearly that it can. Would Professor Charcot or his disciples say that in case of a veritable subject it could not?

In view of the situation, I sent a copy of the report of the committee to a few eminent men in this country, and have and shall do so to others abroad, to obtain clear and concise responses to such of the legal questions as are asked in the report, and I give herewith some of the responses of which not a few were read at the February meeting, as well as the discussion at that session.

Prof. George Trumbull Ladd, one of our most eminent members, says :

YALE UNIVERSITY, NEW HAVEN, February, '91.

MR. CLARK BELL.

DEAR SIR :—I regret that I cannot be present at the approaching discussion of the "Medico-Legal Aspects of Hypnotism." But I will endeavor to compress into a brief statement some of the opinions which, if present, I should wish to maintain.

In the first place, it seems evident to me that the subject of Hypnotism has not yet reached the stage of evidence and knowledge, which warrants any considerable changes in the civil or criminal laws. The *laws* are generally about the last parts of the social structure which can safely feel the effects of special scientific researches and discoveries. Science must take full possession of hypnotism, as the essential pre-requisite of any considerable changes in the laws. And in advancing the cause of science over the domain of these phenomena, nerve-physiology and psychology should go hand in hand. I believe that professional psychologists generally are very eager to learn all they can from physiology on this subject. I wish I could be equally sure that physiologists and physicians were as eager and willing and docile in their attitude toward the science of psychology.

The law may well—and perhaps at once—take cognizance of the truth that science, and science alone, is the only rightful and judicious controller of this domain. It should, it seems to me, suppress all public exhibition of hypnotic subjects, or general practice of hypnotism by incompetent persons ; it should be ready to interfere on evidence that any citizen is being subjugated by any experimenter for purposes merely of gain or other private ends. The protection of the inmates of public institutions from injury to health, and other ill consequences, must necessarily be a more difficult matter for the law to take in hand.

Certain crimes committed on hypnotic subjects are, of course, already pretty carefully guarded by legal enactments or by principles of common law. Deeds, notes, gifts, promises and wills made under hypnotic control, whether in hypnotic or post-hypnotic states, should in general be considered void ; this, I think, should be the principle, whether such instruments are of a kind likely to be made by the same person uninfluenced by hypnosis, or not. Of course, to determine whether there has been hypnotic control must be a matter of evidence in each case. I do not see then, why we should not have the same necessity for recognizing the value of expert testimony, which arises constantly now in cases of alleged insanity, or " undue influence " of other than hypnotic sort.

I see no objection to the careful guarded examination of witnesses, or of accused persons, by expert and trustworthy hypnotizers—when sanctioned by the Court. If my present view of the phenomena is correct, such an examination could rarely or never be very productive of information unless the person under examination consented to be hypnotized. Evidence thus obtained, however, should be used—it seemes to me, only as indicating where legally usable and valid evidence might be obtained

and not as itself legally usable and valid. In case of a jury trial, such examination should perhaps be before the judges, but not before the jury.

The determination and punishment, where crime is proved to to have been committed under hypnotic influence, is necessariy a very difficult and complicated problem. But when science has done her more perfect work —and that in no very distant future—I cannot see why these should be any more difficult than cases where crime is committed by one alleged to be insane. In both classes of cases we simplify our problem very much, however, if we take what is now known as the "Anthropological" view. As to the responsibility of the individual to the moral law I take what is called the "classical" view. I believe, as most of those holding the anthropological view do not, in the freedom of the will, and in the reality of guilt, as distinguished from the fact of crime. But I am inclined to think more and more, that society should deal with crime solely in a way —on the average and in the long run—best to protect itself and promote its own social welfare.

Suppose, then, that a crime has been committed under hypnotic influence. The law should treat both the criminal who suggests, and the hypnotic subject, the criminal (I do not say the *guilty* person) who receives the suggestion, according to the broadest and most humane sociological principles. Both persons might be—very properly, as it seems to me—deprived of liberty, in such manner as the interests of society dictate. Perhaps the prison for one, and the insane asylum, for the other, would not be inappropriate. Under present conditions, the "punishment" of both might not go farther astray from their respective deserts than is customary with our clumsy human justice so-called.

I am well aware that the extreme case of murder, would prove a very perplexing one. I am not as yet satisfied that such a case is at all likely to occur. But should it occur, it would probably be well nigh impossible to secure the death penalty for either party.

I am well aware, my dear sir, how foolish and premature, much of the little I have written will seem to your committee. I shall be much pleased to learn wisdom on this subject from those wiser than myself.

The one thing on which I most wish to insist is this, that for the present, science alone should possess this field. The first business of the law is to keep out those whose researches are not solely in the interests of science, and so, ultimately, of humanity; its next business is to learn from science whenever the scientific investigators can agree upon in their report.

I am yours respectfully,

GEORGE TRUMBULL LADD.

Prof. Paul Carus, the gifted editor of the *Monist*, says:

CHICAGO, ILL., Jan. 30, 1891.

CLARK BELL, ESQ., President Medico-Legal Society.

DEAR SIR.—Although hypnotism is not a disease in itself, the neurotic conditions that predispose a subject for hypnotization, are of an ominous nature, in so far as they can at any time become the means of depriving hat person of his or her self-control, and make him or her an easy tool

for crime under the influence of unscrupulous men. For this reason it should not be allowed that any person should hypnotize except with the subject's consent and also for weighty medical reasons. Nor should unskilled persons be suffered to practice hypnotism. Laymen should as little tamper with psychical experiments as non-physicians should be suffered to practice medicine.

Hypnosis, viz., sleep artificially induced by psychic means, can be used as a valuable therapeutic agent, especially when insomnia is the cause of the disease. As an anæsthetic, however, it is not to be commended. Narcotics are still more efficient and more reliable. Hypnotism should never be employed for cases of confinement (as is done in Parisian clinics), because it stands to reason that it produces a predisposition for hypnosis in the child. The physician has no right to inflict such a blight upon the budding life of a man—nor has the mother either—only to free her from an hour of pain. In saying this I do not deny that the experiments of Dr. Luys, who employs hypnotism in case of childbirth, will most likely prove to be of great scientific value.

Concerning the legal aspects which you present, I should say that according to a rational interpretation of our laws, it would be punishable for the operator to seek control of the sensitive subject unless demanded. [In answer to point 1.]

Proper witnesses should be present whenever the slightest doubt in the honesty of the operator can arise. [In answer to point 2.]

Hypnosis is a justifiable inquisitorial agent for finding clues, but it has not the slightest value if considered as evidence [in answer to point 4]; because it is extremely difficult to remove the many sources of error, simulation and also, perhaps most so, of self-deception. [In answer to point 3.]

We need no reconstruction of the laws of evidence. A wise and sufficiently broad application of the present laws will be found to be sufficient. Nor do I mean to have laws passed to enforce protection against malpractice. I trust that our present laws suffice to protct the ignorant against psychical quackery as far as protection is advisable. No new laws are needed—supposing that the judges are competent men who understand how to make the proper application of those laws that prohibit nuisances of a similar kind. [In answer to point 5.)

Concerning the Penal Code, however, I should say [in answer to point 6] that it is highly desirable to revise it according to the scientific maxims which can be derived from the data brought to light by modern psychology, in the sense proposed by modern criminologists. I would not advise treating the criminal with sentimental humanitarianism, but treating crime as a moral disease, to cure it effectually without letting the criminal suffer more than exactly necessary. At present the criminal is sometimes punished more severely than he deserves, and crime is preserved. Our penal institutions should become asylums, not for penal purposes, but for moral cures, and also for separating injurious elements from society.

Respectfully yours,

P. CARUS.

Prof. William James, of Cambridge, says:

CAMBRIDGE, MASS., January 23, 1891.

CLARK BELL, ESQ.

DEAR SIR:—I appreciate the compliment which you pay me in asking for a letter to be read at the discussion of hypnotism before the Medico-Legal Society.

My experience has been too small to justify me in having any personal opinion about criminal suggestion, etc. I entirely reject the notion of using hypnotism inquisitorially, and in my eyes the less legal surveillance there is over private experiments or public exhibitions, the better it will be.

Very truly yours,
WILLIAM JAMES.

Prof. Joseph Jastrow, of the University of Wisconsn says:

MADISON, WIS, February 1, 1891.

CLARK BELL, ESQ., New York:

DEAR SIR:—I take pleasure in saying a few words in answer to your kind invitation. I am glad to see that the subject of Hypnotism is being seriously taken up amongst us. In so doing we should profit by the experience of our foreign brethren and avoid the dangers into which they have in some part fallen. Should the result of your deliberations be the suggestion of some legislation restricting the practise of hypnotism I trust it will be framed broadly enough to include its use by professional psychologists and others of scientific standing. To limit it to physicians solely, seems to me to be going too far; there is nothing in the M. D. degree that will prevent its abuse, nor does such abuse follow from the absence of such a degree. The prime object is to prevent public exhibitions that count only upon idle curiosity for their support, and dilletante meddling with dangerous practices, and to restrict the practice of Hypnotism to scientific purposes; amongst these I count as highly important the deductions which the modern students of Experimental Psychologists have drawn from hypnotic experiments with reference to normal mental processes,

Of the points stated in your report, I would take exception only to the third, in which you state the position of the Paris school. It seems to me from my reading, from my personal experience with subjects and from what I saw at Paris and at Nancy, that the Nancy view which regards these three stages as accidental and insignificant variations of what is really a very variable condition, (the exact nature of which we do not clearly understand), is the true one. Lethargy, somnambulism and catalepsy appear as the results of suggestion (conscious or unconscious) and the precise distinctions between them are rareiy obtainable.

The legal aspects of the subjects are certainly serious, and the experiments of Liegeios open out alarming possibilities. How far these facts should influnce legislation is, of course, a most delicate inquiry upon which I can have no professional opinion. When we consider the variance

between medical science and legal practice upon the question of insanity and responsibility, we cannot be very sanguine of the acceptance by the Law of the fruits of scientific investigation.

I shall follow with interest, the progress of your deliberations, and trust you will find it possible to keep me informed of your doings.

Very truly yours,

JOSEPH JASTROW.

Dr. Charles H. Hughes, Professor of Nervous Diseases and Psychiatry, Marion-Sims College of Medicine, and editor of the *Alienist and Neurologist*, St. Louis, says:

ST. LOUIS, MO., January 20, 1891.

CLARK BELL, ESQ.

I am, in the main, in accord with the report of the Committee. My views upon one aspect of this interesting subject have been already expressed in a recent editorial in the *Alienist and Neurologist* referring to the Eyraud Bompard case, which permit me to here quote.

"This trial, in its psychological aspect, is the most remarkable of modern times. No plea since the days of Cotton Mather, when witchcraft occupied the public mind and theories of obsession were offered in extenuation of reputed crimes, has possessed so much interest to students of psychology and psychiatry. The names of the medical experts appearing as witnesses on both sides of the case are those of men distinguished for their contributions to science and their studious research. Both Professor Liegeois and Professor Brouardel, the first testifying in favor of hypnotic influence, and the second controverting it, are eminent in the medical profession of France. The hypnotic school of Nancy is justly renowned, and the conclusion of Professor Liegeoise, a pupil of Bernheim, that Gabrielle Bompard was a hypnotic subject, carries with it the weight of an authority respected wherever hypnotism is studied and understood. But Charcot and Brouardel are likewise at least fully as eminent.

There seems no reason to doubt that the girl was susceptible of mesmeric influence, and more or less under the dominion of Eyraud, who was, at least the leading agent in the murder. Whether Bompard was a willing or unwilling subject does not appear from the testimony as transmitted over the cable. The girl's previous life, however, her early history of evil habits and neglected education, requiring unusual restraints and coercions, as set forth in the address of the Procurator-General, would indicate that she was an apt and consenting accessory to the crime.

The condition of hypnotic criminal suggestion, is a subject yet to be elucidated by science and before the courts. Notwithstanding the uncertainty which invests this case, great crimes may be committed under hypnotic suggestion. This possibility has been demonstrated by Mesmer and his pupils, by Charcot and Bernheim, but before any of these, with the exception of Mesmer, the previous experiments of Braid, the Manchester surgeon, also show its possibility. There is no reason to doubt, from what we know of the possibilities of Braidism, or hypnotic suggestion, that crimes as well as the cure of diseases may be accomplished through its influence.

But crime under the influence of hypnotic suggestion, would be what is implied in the expression—an act, every step of which would be suggested by the hypnotizer to the hypnotized. If all the steps necessary to the accomplishment of a crime are anticipated by the hypnotizing agent having a criminal intent, the subject would doubtless carry out minutely

all the suggested details; but the intervention of any circumstance or eventuallity not reckoned upon by the hypnotizer in planning the execution would undoubtedly upset entirely its voluntary execution.

The difficulty in the way of accomplishing crime under hypnotic influence would be in the operator's failing to anticipate every possible resistance, and providing for it by suggestion. It is owing to this fact—and it is fortunate it exists—that crimes under hypnotic influence can very seldom occur. To illustrate: A villainous hypnotizer with murderous intent suggests to the subject of his influence that at a certain time he shall proceed to a certain house where he will find his proposed victim lying in a certain room, in a certain bed and in a ceriain position. The successive steps of this crime are all carried out by the subject, but the victim does not happen to be at the place suggested. The individual acting under suggestive control can do no more in the accomplishment of this intended crime except he awakens from his hypnotic trance and completes the act under the impulse of his own normal volition. This fact, then, would render the perpetration of crime under hypnotic suggestion ordinarily impossible. The subject, acting hypnotically, is liable to encounter in almost every instance unsuggested and unprovided for contingencies.

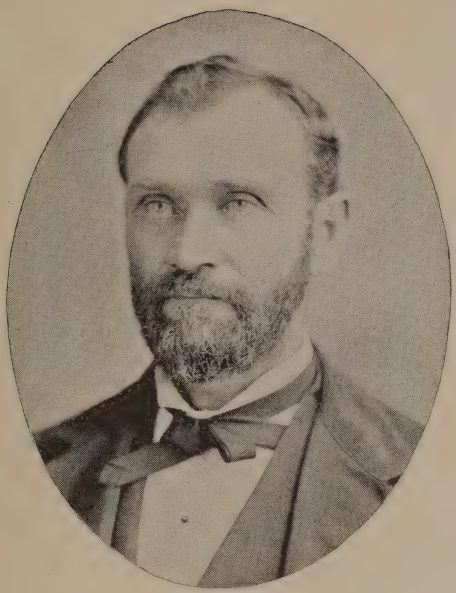
When the plea of hypnotic influence is advanced in extenuation of crime the presumption from what we know of this phenomenon would be against its entertainment. The scientific and the legal presumption would in such a case, I think, be identical—that is, against the theory of hypnotic irresponsibility. For the reasons here made apparent I think that the startling fears expressed in many quarters as to hypnotic power being generally abused, are groundless, and that while crime may be perpetrated under its influence, the difficulties in the way of its operation are sufficient to hold its abuse in check. Nevertheless, in criminal procedures, as well as in civil ones, courts ought not to lose sight of this possible 'undue mental influence.' Its tendency is to develop a morbid condition of the mind and an unstable state of the psychical centers. This is a substitution of one disease for another, and is profitless in a medical sense. The practice of mesmerism destroys the subject's mental equipoise, renders him more or less abeyant to that of the operator, and obliterates his normal individuality. For this reason, to practice it indiscriminately, is criminal, and should be made so by the law, as it is in many countries."

There are degrees of responsibility in hypnosis dependent upon the circumstance under which the condition is induced or permitted to be induced by the subject, just as there are degrees of criminal responsibility where crime is perpetrated under the dominant impulsion of alcoholic inebriety.

The subject who, knowing his failing and his madness, meditates in calmer and uninfluenced moments a crime and then puts himself in the way of being helpless to resist the impulsion of alcoholic toxhæmia or resistless hypnotic suggestion takes a voluntary initial step in the direction of crime which, in my judgment, should be punishable by law.

In criminal procedure it would seem proper that the law should take cognizance not only of tho involuntary condition but of the voluntary steps preceding it and hold the operator and willing subject alike as criminal, though perhaps in varying degree, as principal and accessory before the fact. The first question of the Committee is, therefore, a significant and eminently proper one, and all the others are likewise important.

The subject is many sided. Hypnosis to detect crime should be undoubtedly a justifiable procedure in so far as involuntary self-crimination would be justifiable by law, no further. The facts of visual, auditory and tactile perversion demand, under certain evident conditions, such as we



HON. JOHN W. STAYTON,
Chief Justice Supreme Court of Texas.

now have under consideration, a partial revision and reconstruction of Criminal Law, and public exhibitions of hypnotism should be prohibited by law as injurious to the subject and subversive of public health and morals.

I regard hypnosis or somnavolism as I have preferred to call it, as an induced morbid impressibility of the psychical and psychomotor centres of the cerebrum, and as such I consider it a condition of functional cerebral disease, which we are not morally justifiable in inducing or provoking in susceptible persons without good reason.

It is an unnatural functional impressibility of the brain which should neither be oncouraged by science or permitted to be promiscuously or publicly practiced by law.

C. H. HUGHES.

Prof. Archibald Church of Chicago, responds in behalf of the Medico-Legal Society of Chicago, as follows :

167 Dearborn, St., Chicago, February 9th, 1891

Clark Bell, Esq.,; 57 Broadway, New York.

Dear Sir :—Your note of the 31st ult., and the report of your standing committee on Hypnotism has been referred to me by Dr. Doering, as the chairman of a committee of the Chicago Medico-Legal Society, appointed under a resolution adopted at the December meeting, to secure legislation, controling the public and indescriminate employment of the hypnotic state. The resolution mentioned pointed out the moral dangers of hypnotism and its medico-legal bearings with the recommendation that its use be limited, under penilty, to properly qualified medical men and that even then it be never employed except in the presence of other medical men or close friends of the subject. It was specificaly directed against public seances of hypnotism, magnetism, etc. Herewith I hand you a clipping showing what has been done in Cincinnati.

We are having a bill prepared to go before the present session of the State Legislature in furtherance of these ideas.

Very truly yours,

ARCHIBALD CHURCH.

Hypnotism in Cincinnati.

The Common Council of Cincinnati has just passed an ordiance making it a misdemeanor to give hypnotic exhibitions. Dr. J. W. Prendergast, Health Officer of that city, is of the opinion that hypnotism, when applied indiscriminately, is injurious, as it affects the mental health of the subject, and recommended the enactment of the ordinance. A lecture on hypnotism was refused a license and obliged to leave the city.—*Journal of American Medical Association*, February 7th, '91.

Hon. G. A. Endlich, Editor of the *Criminal Law Magazine*, responds as follows :

Reading, Pa., February, 7th, 1891.

Clark Bell, Esq.,

Dear Sir :—It will not be possible for me to attend the meeting on February 11, as you kindly suggest. Nor do I feel myself sufficiently

clear upon the subject of hypnotism to make what I could say of any value. It is one upon which rash talking is out of place. But I am strongly of the opinion, that, in the present state of our knowledge of it, there ought to be some legal control exercised over experiments and exhibitions in this field.

Thanking you for your article, and hoping to hear from you again, I remain, my dear sir,

Very truly yours,

G. A. ENDLICH.

Chancellor Henry R. Gibson of Tenn., writes:

KNOXVILLE, Tenn., February 2d, 1891.

CLARK BELL, ESQ., New York,

DEAR SIR:—In my investigation of Hypnotism, I have not reached a point of observation from which I have any views.

I would be glad to have all the literature on the subject the Society may be circulating.

Very respectfully,

HENRY R. GIBSON

Ex-Judge John F. Dillon, says:

CLARK BELL, ESQ., 57 Broadway, New York,

MY DEAR MR. BELL:

I have yours of the 2d inst., in relation to the report of the Standing Committee on Hypnotism. It would give me pleasure to comply with your request to send my views in relation to the subject for the symposium, but I do not feel tuat I have made such a study of this question as to give anything that I might say any value whatever. I shall be very glad to learn from others.

Very truly yours,

JOHN F. DILLON.

Ex-Judge T. J. Barnett writes:

FORDHAM HEIGHTS, February, 1891.

MY DEAR MR. BELL:

Perhaps you think that you compliment me when you ask me, as you do, to write on the law side of Hypnotism. But how can I—unless myself suggestively hypnotised by some mystic—when there are no sufficient facts in the case before me? Thus submitted to me on its face, you must go out on demurrer, for want of a sufficient presentation. However, I will talk a little *obiter dicta*.

As poor Mr. Lincoln (dear Mr. Lincoln) said to Horace Greeley about the late war between the North and the South, so say I about what I hear and read, but see not, in any part, wholly proven, on the subject of hypnotism, viz.: "It's a big thing." The thing itself, in some form or other, is as old as tradition, floating ever nebulously in the air, doing much queer work of all sorts, satanic and otherwise. It did a good and a pertinent thing, however, when it materialized the ghost of Hamlet's father when, clad in complete steel, that spirit opened the ponderous doors of

its sepulture, revisited the glimpses of the moon, made night hideous and Hamlet crazy, and wrung from the dazed prince its solution, to his own mind, viz: "There are more things in heaven and earth than are dreamed of in your philosophy," or words to that effect. In other words, Hamlet then, was about where we are now in this quest.

Whatever is against the public morals or the public health is illegal by the Common Law. If, however, this hypnotism has assumed a new phase, demanding special legislation for the protection of its good uses (newly developed), as a medical factor, and against such perversion of this phenomenal power as makes it dangerous and even beastly in unskilled or vile hands, clearly herein is very serious work to do by your Medico-Legal Society.

Medical science and law must go into very close, patient, and diligent companionship herein and *make a case*, as well for the good as for the evil of it, before it will be reasonable to demand for it special legislation. Already "the world is governed too much." For obvious reasons legislation in this regard must be aided by the very essence distilled by medical science before it can intelligently intervene, and every *lawyer* must see this at a glance.

If the devil be (particularly and anomalously) "let loose" at this period, as a prelude to the millenium, doing crime through *unconscious* men by trance suggestion and the like, in order to secure more souls for his pleasant retreat on the Miltonic "burning marl"; if, more than ordinarily he be obcessing certain humanities; playing a new game which befogs M. Ds. and even befogging lawyers; if, juggler-like, the cunning old rebel, in order to peril our souls, is throwing ropes in the air for poor mortals to climb up on, *insisting* that we shall *coil* the ropes *after us* in a mad race *ad astra*, in pursuit of the unorthodox clouds of science rather than the orthodox heaven of faith (just as he tempted the old fabulous chap to attempt to steal fire from the altar of the gods). Well, if this is any part of what is called hypnotism (and here I invite attention from Judge Noah Davis) in the memorable language of Bill Tweed, "What are you going to do about it?" It is difficult to formulate law on a foundation of clouds. It is only the fair sex (bless them!) who are builded up on such an ever-changing basis (?). But, *nous verrons;* it is always the unexpected that happens, say our gay neighbors.

You already must perceive that I am not about to write my few words very seriously (nor yet even ironically I hope) on so grave a subject. This letter is designed for your festive moments, like a Kings fool at a State banquet. Yet there will be a little of the hypnotic in what herein follows: (The MEDICO-LEGAL JOURNAL won't be hurt at now and then infusion of, "From grave to gay, From lively to severe.")

Let me give an object-lesson or two, to illustrate some really demonstrated good results which have sprung out of hypnotism.

For example: See our genial, suave, gentle, energetic, bright, poetic friend, Citizen George Francis Train. How glorious, how full of pluck, spring, and vivacious discourse he is, all who personally know him must even affectionately admit. How comfortable he and his psehyo are hypnotised by peanuts, baked beans, Turkish baths, long fasts, and by little

children in the Madison Square. Mr. Train concedes not only that he is hypnotised, but he goes much further and declares the astounding fact that he is thereby privileged (and guaranteed by his pschyco hyptoniser) to exist in the flesh, on this planet, in vigor and youth, for two centuries yet to come. Surely this is what they call a "crusher"—for what hope has our medical science, with existing lights only, to perform for humanity a feat like this? I say, emphatically, away with a legislation that would interfere with Citizen Train (because of demoniac agency), or with his platonic demon, which is not Satan, but is on the contrary, a benificent cherubic pschyco.

But I have not yet done with Citizen Train and hyponotism. I must call on the eminent Judge Noah Davis, to observe how herein *he* is entangled hypnotically with Citizen Train. The facts as alleged by our friend Train present an interesting cause for possible hypnotic law:

It is an open secret (on all fit occasions Mr. Train avows it; indeed he has said it in the public journals) that the eminent Judge aboved named, many years ago, judicially pronounced the said citizen to be a ("mild") lunatic, in which status,—so far as I have examined the record—the said citizen now remains. Dating from said judgment the said Train's condition, in so far as it regards property, has been and is that of an "irresponsible." He is a ward in chancery. Now, pending this trance condition, defined by the judge, and so adjudicated, to be "mild lunacy,' (as Citizen Train" alleges) property of immense value, estimated at millions, has passed out of the Citizen's hands, sold for taxes or on liens during Citizen George's hypnotic trance, which the judge so hazardously affirmed to be mild lunacy (hypotism at that time being an unknown factor.) Query: When the citizen shall waken from his trance, if at any period during the lifetime of Judge Davis, will not the Judge be personally liable to recoup his hypnotee,—by *him* hypnotised by virtue of the adjudication, which put the Citizen into this trance-state? This is a point, sir, and fit for "Contingent Remainders." It is perhaps, however, not very clearly put, but who shall say that it is not hypnotic?

I think it is Bulwer, who somewhere says: "It would be a great thing if the magnetizer could get me out of my *own* skin and into somebody else's!"—What do our specialists,—the noble army of dermatologists—say to *that*, as a possible hypnotic factor in physic? In the comparison with this easy possibility, what do your microscopes, lymphs, caustics, unguents, knives, with which you arm yourselves in the bacilli-microbe-hunt, amount to in the way of treating those persistent, tedious skin diseases? What is even the weight of grafting, in this scale?—feathers to lend! The hypnotic-trance—the *suggestion of a new skin* to the victim,—and presto, the work is done! Think of this Doctors Buckley, Fox, Daniel Lewis, *et al.*, who hunt so skillfully after your insidious quarry in your renowned Skin and Cancer Hospital—wherein you are immortalizing your work, and erecting a monumental charity; your doors open to all sects, sexes, and nationalities; and free to such fit ones who cannot pay,—an asylum for incurables, until death shall relieve them;—a benificence without endowment and wholly dependent on public charity. [I could not resist this episodical tribute to as pure a charity as

the world has seen.] In view of the hypnotic skin change the veriest layman must see the long vista of possibilities opened by the phenomena of hypnotism.

I know very well that Inspector Byrnes and his police will not favor this changing of skin hypnotism; a new skin will hide an old rogue. And the practice of this art, in this way, would be manifestly unfair to the ladies. For, why should my *young* friend K—— run the risk of me (an octogenarian) masquerading through Love's bowers in *his* irresistible skin? And ah! Mr. President, should *thy* skin be stolen! Over such a transformation every Sorosis in this world would be draped in sable.

Hypnotically I shall be with you at your symposium (though far away from you in flesh) whenever and wherever such feasts of soul, and sense and sensuousness may be. The poet Burns (in reality) was drinking vulgar beer and whiskey amidst boors in the ale houses he frequented; but hypnotically he was sipping nectar and imbibing ambrosial thoughts and shaking with the laughter of the gods among just such a set as about you assemble.

In conclusion, as I take off my cap and bells (in which I have played the Fool nearly to my uttermost) let me remind you gravely that it was Amphyction who first taught the Greeks to *mix water* with their wine, in commemoration of which circumstance they erected altars to Bacchus and the nymphs, on which the following epigram was founded. Knowing *your* Latin to be so confoundedly bad I translate it (*non verbum verbo*, however) as thus:

"While heavenly fire consumed the Theban dame
A Naiad caught young Bacchus from the flame
And dipped him burning in her purest lymph;
Still, still he loves the sea-maid's crystal urn;
And when his native fires infuriate burn
He bathes him in the fountain of the nymph."

On second thoughts I refer the original of the above to (*Stat nominis umbra*) our chaste and classic friend K——.

"*Ardentem ex utero Semeles lavere Lyaeum*
Naiades, extincto fulminis igne sacri,
Cum nymphis igitur tractabilis et sine nymphi,
Candenti rursus fulmine corripitur."

Faithfully,
T. J. BARNETT.

The following discussion on Hypnotism took place:

Mr. Moritz Ellinger: *Mr. President*—I feel very much interested in the thoughts expressed here to night. We have to consider solely the legal views of the question. We could not well interfere with the medical part of it, because, in the first place, notwithstanding

many theories have been advanced, hypnotism is, as yet, more of a phenomenon than ever, studied by those who make the subject one of individual and peculiar research. If hypnotism is practiced at all it should be practiced only by those who are competent to study the subject scientifically and otherwise legally. Hypnotism should be applied by physicians for the purpose of endeavoring to effect cures. For mere experimental curiosity it should not be resorted to at all; not even by the physician; because though I agree that hypnotism may not be technically classified under the head of a disease, yet nevertheless the nervous condition of the patient who can be easily hypnotized is not altogether normal, because the normal man and woman cannot be easily hypnotized. How far that can be possible is, from a medical standpoint, very little known, and is more in the realm of conjecture. As far as the legal side is concerned I concur in the wisdom of the Court of Assizes in Paris in the case of Bompard, in declining to recognize hypnotism as a factor in that case. In the present state of our knowledge of the subject the French judges gave the correct opinion. Whether the subject sought the operator, or the operator sought the subject it may be considered mutual, and if there is a criminal responsibility it rests upon both alike and the court should not take any cognizance of it.

As far as public exhibitions are concerned they should be prohibited by law because the medical scientist of a modern city will not make a public exhibition of his skill. He will experiment for the purpose of bringing to light all the knowledge he has gained. Those people who make public exhibitions for the purpose of amusing the public and filling their pockets should be prohibited from doing so, for it is a dangerous practice, cer-

tainly exceedingly dangerous for those experimented upon. So far as the evidence in court is concerned, the person who claims to have acted under hypnotic influences would come under the same head as the one who claims to have acted under the influence of lunacy. Simply he did not act on his own nature or free will, he was therefore irresponsible for committing an act which the court considered a crime; whether the influence was violent that the criminal was subjected to or that he had a diseased mind will make very little difference if such a plea were advanced in court. I think we have not advanced far enough in the knowledge of the science for that, and if a person put forth such a plea and be examined for his mental condition the examination should be done by scientific persons. But I do not see that any law, so far as the court is concerned, is necessary. I do not think we are in a condition at present to pass different laws in regard to that special phase of crime. Prohibit public exhibitions except by a student who makes it a study, and in that case only by men who are qualified to make these experiments. Experiments from curiosity or other motives should be prohibited, for great danger may be experienced by persons operated upon who may be in a perfectly normal condition and may be put practically into a condition which would not be normal.

IS HYPNOSIS A JUSTIFIABLE SUBJECT OF INQUIRY?

Dr. Wm. H. Palmer of Providence, R. I.: *Mr. President*—This is the pivotal question among those proposed. To answer it affirmatively would be to endorse hypnotic agency in general; while a negative answer involves a condemnation of hypnotism not only for inquisitorial purposes, but for most other uses for which it may be employed. I would, therefore, preface an answer to the

question by a brief consideration of the advantages to humanity involved in the use of hypnotism.

The advantages claimed are (1) psychological. Here the claim is well founded. To the psychologist and the alienist the demonstration of uniform relations between mental phenomena and bodily conditions is important. Experiments in hypnotism certainly seems to promise to bring the mysterious processes whereby sensations are converted into ideas, into a realm where they may be scientifically examined. (When we see the face of the cataleptic assume a frown on his being made to double his fist as for a blow, and directly afterwards a smile if his fingers are placed to his lips as in the act to throw a kiss, we seem on the threshold of a revelation of some mechanical law affecting the reactions of body and mind.) The phenomena of hypnotism is donbtless a legitimate object of scientific investigation, and hypnotism a justifiable agent, employed for ends tending to increase human knowledge and power.

Advantages are also claimed (2) for hypnotism as a moral and educational agent. It is said that the depraved have had the habitual current of thought turned away from things vile by the influence of suggestions. Such cases of purely subjective reformation have interest but no exceptional value, as similar reformations are constantly and increasingly occurring through enlightened religious, educational, and penal agencies, while these few and somewhat dubious cases of reform by suggestion are overwhelmed by the numerous instances of hypnotics coerced into acts and emotions the reverse of elevating.

At the present time the records of hypnotism do not justify its use as an agent for education or moral reform, for the supreme maxium of education is, "Strengthen

good habits by accustoming the will to act promptly, and strengthen the will by perpetual repetitions of choices;" or, from the physiological side, "Resist instability of nerve structure." Hypnotism undermines each and all these methods by supplanting the individual will through which alone a permanent modification of character is possible, in order to make place for the domination of another's personality.

Advantages are claimed (3) for hypnotism as a therapeutic agent. We must speak guardedly here, for the relief of human suffering is an end which appeals to the medical practitioners in a way calculated to hold in abeyance any objections offered to measures proposed for such relief.

Of the causes reported by the schools of Nancy and La Salpêtriere, an immense majority are records of perverted or idiotic behavior and feeling on the part hypnotic sensitives.

A small proportion are "cures." These hypnotic cures, effected by exciting in the patient an expectation a conviction of cure, unparalleled by the cures of faith healer's, "Christian Scientists," and the like, who also operate by arousing an expectation of relief. The physician also depends largely on expectation of cure for his success. But the expectancy, encouraged and relied upon by the physician, differs in its nature from that aroused by the hypnotic or the empiric, in that it rests not upon a more unreasoning emotion, but upon a rational confidence on the part of the patient, that the physician's knowledge of the healing art and his wisdom in applying that knowledge will accomplish a cure. That is, the expected result (a cure) depends in the patient's mind upon a sufficient and intelligible cause (the physician's skill). Or if in certain cases the confidence of the patient is of a purely emotional and unreasoning nature,

then, as in the case of the empiric or the hypnotist, the physician's cure is effected at the expense of the mental integrity of the patient, for, by all known laws of mind and body, repeated submission to influence, uncontrolled by the reason and the judgment, tend to discourage self-possession, to impair self-control, and to increase nerve instability.

Admitting, therefore, the possibility of hypnotic "cures," their result would be toward mental unsoundness and the possible transmission to posterity of inherited weaknesses and perversions. In hypnotic patients we should have the origin of another defective class; through them we should manufacture new forms of idiocy and alienation. For these general reasons I would offer a negative answer to the question, "Is hypnotism justifiable as an inquisitorial agent?"

In the case of the woman Bompard, tried for the murder of Gouffi, in Paris, the employment of hypnotism as an inquisitorial agent, was denied by the Government. M. Liegeois asserted that if this woman was hypnotized she would give an accurate account of the manner in which it was perpetrated. The proposal was rejected by the Government on the grounds "that the prisoner was a liar * * * that her mendacity would prevail even in the hypnotic state, and that shamming could not be detected."

Apart from the general disadvantages of the use of hypnotism, the evidence does not warrant the belief at this time that the testimony of the hypnotic as to a committed crime can be accepted as evidence by which legal justice could be administered. The French Procurer Général, on the occasion of the trial referred to, said: "The consequence of that doctrine (inquisitorial hypnotism, would be that there would be no longer any morality or any conscience. Man would not be distinguishable from the brute creation; he would disappear in the anarchy of unpunished crimes."

The wave of interest in the subject of hypnotism at the present moment resembles waves of interest in other occult influences, such as possession by devils or witchcraft, mesmerism, spiritualism, etc., which have from time to time flowed into the current of human thought, and have ebbed again into the great ocean whence they came, leaving no permanent additions to human knowledge or power to mark their track.

Mr. Wilson McDonald: *Mr. President*—It has been nearly fifty years since I first witnessed experiments in mesmerism and idependent clairvoyance. Up to the present time I have not known or heard of a case which resulted fatally or even injuriously to either a subject or a patient. But, on the contrary, I have known a large number of cases where pain has been instantly removed, patients cured, surgical operations performed without pain, lost articles found and restored, business complications adjusted, warnings of disasters that were to come foretold, and, in many instances, good and permanent results experienced by persons who had been mesmerized. The proposition, therefore, to enact laws in the State of New York to prevent mesmeric experiments, or place them exclusively in the hands of the physicians, is not only unwise, but absurd, and shows conclusively, to my mind at least, that the proposers of such a course, regarding this interesting phenomena, know little or nothing about it. There are no facts showing that physicians are any more capable of investigating the phenomena than any other class of citizens. The ability to mesmerize or demesmerize a subject depends more on the physical, mental, and nervous organization of the mesmerizer than it does on the profession which he may follow.

The laws that seem to control what has lately been called the hypnotic condition are as yet but little known.

I am unable to understand why and by what authority the

word hypnotism has been substituted for the word mesmerism. This latter word has been in use for an hundred years and was always clearly understood. Was it because the term was an unpopular one; or was the word hypnotism substituted as a sort of a shield to investigation against popular and ignorant clamor? Be this as it may, it was only after nearly a half century of discussion and contention by the "Forty immortals" that the main facts of mesmerism and clairvoyance were adopted by the French Academy. This goes to show, to some extent, that which has often been claimed, *id est*, that scientists have generally been the first to oppose nearly all the great discoveries and the last to acknowledge them, even after they had been demonstrated!

I hope no law will ever be placed upon our statute books abridging the right of honest investigation of either known or unknown laws of nature.

Dr. Henry S. Drayton: I would simply remark, in response to your naming me, Mr. President, that I am inclined to take similar ground with Mr. Wilson MacDanald, although I should refrain from being quite so radical in terms. In considering this subject from a legal point of view, it is necessary to be sure first of its scientific grounds, and so to have provided a definite premise or proposition that would give a fair and logical synopsis of the subject. As the fact is, we have yet to find in any of the discussions a definite account of what hypnotism is, and feel warranted in the claim that scientific men, whether of the legal or medical school, are not fully qualified for considering the subject. I have read the views of Professor Heidenhiem, Dr. Bernheim, and of Professor James, of Harvard, and find that they hold very different opinions, and it is found that all those who have taken up hypnotism and studied it carefully are, as a rule, frank in acknowledging that it presents phenomena involving much obscurity. I am inclined to take the ground,

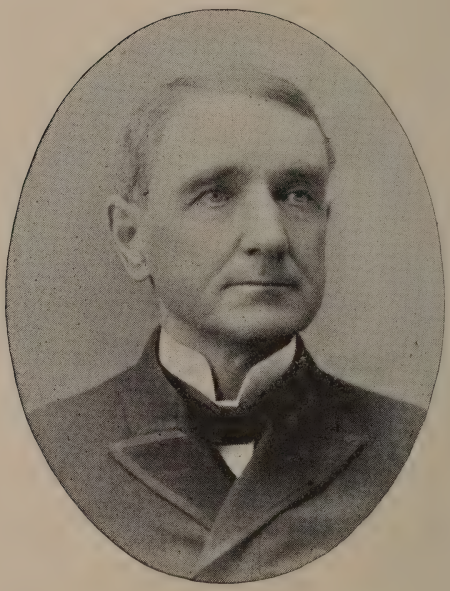
with Dr. Thwing, that hypnotism *per se* is not injurious as a mental experience, and speaking as one who has employed hypnotism medically and experimentally I do not look upon it as a phenomena so abnormal as to lead to injurious effects, unless improperly employed. I should regard hypnotism as any other extraordinary thing should be regarded, as a matter to be investigated, and its merits, whatever they may be, should receive due appreciation. In one of the English reviews an article was published recently in which the writer discusses the legal and moral aspects of the subject we are now interested in. He puts it that the law should not intervene to prohibit experiments in this regard any more than it should prohibit experiments, by competent persons, in vivisection. Discrimination should be exercised in this matter, and any step taken by judicial authority should be the result of deliberate and intelligent consideration of the whole subject.

Mr. Julian Hawthorne: *Mr. President*—I came here tonight with the hope of adding to my professional views. My position is a little difficult. I suppose it is something new in the Medico-Legal Society to be addressed by a person whose ignorance of law is only exceeded by his ignorance of medicine. It is the method of poets and scholars that they should be true to their types and meet these sudden demands upon them.

It may be that even science is not yet fully conversant with the phenomena, and where ignorant men might not hesitate, scientific men would fear to enter, and it would thus deter them from giving forth their views. I might take up the literary part of the matter, but to do that I should be obliged to rehearse the stories I have written or give away the stories I have yet to write. The truth is, my chief embarrassment arises from the fact of having nothing of consequence to say. I find my individual opinions so conflict-

ing and so contrary in themselves that it is difficult to adopt a decided line. I think I shall, with your permission, consider some of those conclusions which your committee regarded as established facts which so frequently happen. I am unacquainted with the steps by which this decision was reached, but I am inclined to think that hypnotism is as much affected by something transferred from the operator as by anything produced by or from the subject. No man can meet another man's thoughts; the thoughts that are transcribed by himself, without something emanating from it, some mutual influence which continues as long as though made by association. The influence used by the hypnotizer on his subject is something of that kind. It is perfectly true that the hypnotized person may hypnotize himself. That opens an interesting view of the subject which five minutes is fully inadequate to discuss. You all know the case of the woman who had three hypnotic states; the deepest was the first, the second was that of a stupid peasant woman; the third, an hysterical, lying, scheming person, who realized enough of the hypnotic state to try and hide the fact that her normal state was controlled by it, the latter trait being that of a person of strong character.

It leads to the fact that hypnotism is not natural, as Hiedenheim supposes, but is a metamorphose of most of the intellectual faculties. The great orator who gets up to make a speech and forgets his *ego* is hypnotized, especially when he is at his best. Let an experienced after-dinner speaker rise before a company to speak. The moment he gets on his feet he encounters his *ego*, and being unable to control it, he is at once plunged into mental misery, and his speech is a failure. The great poets and actors are self-hypnotized, and in their hypnotic state liberate their higher powers. The great Henry Clay had a story told about him when he once started to speak, and when in full tide of his oratory forgot



HON. R. R. GAINES,
Associate Justice Supreme Court of Texas.

himself, and nearly always sat down completely exhausted. So one night when he was about to speak he told a friend to stop him after five minutes. The friend allowed him to speak ten, then pulled his coat tails, but Clay paid no attention. Then after fifteen minutes he stuck a pin into him, and continued to do so at intervals for an hour and a half, when Clay sat down utterly exhausted, and completely oblivious to what his friend had been doing, he said, "Have I not spoken more than five minutes?" His friend said, "You have been speaking for an hour and a half." "Why did you not stop me?" Then his friend told him what he had done.

I wish to say, in regard to the actual questions which are asked in the report to the Society, I should be entirely opposed to any legal interference with hypnotism or its investigation. If I were a dictator I should insist that hypnotism should be practiced in every family, by all the members, at certain times each day for one year, and at the end of that period my dictatorship would be ended and nothing would be heard of hypnotism for the next hundred years.

Dr. Paul Gibier: *Mr. President*—I beg you to pardon my inability to speak the English language. I told you I could not talk on the subject, although I was perfectly willing to come and listen to the interesting communications which are being made, but I feel entirely unable to speak on the matter. You have known that I have studied the phenomena of hypnotism with Prof. Charcot in Paris. For my own satisfaction I have studied this science, but I tell you if I had power to prevent it, I would not let you know that I have written on this subject, which I consider as a very dangerous and compromising one. At present I indulge only in the field of microbes. The microbes and hypnotism do not seem to be very well acquainted, but perhaps between microbes and hypnotism the distance is not so long or so far

as one would think: when you are promoting the phenomena of hypnotism you are studying the phenomena of life. Microbes are, so to speak, the beginning of life. As for the former, I think that if you care for the interest of the individual, it would be wise to prohibit public exhibitions of hypnotism; but if we consider the principle, we can lay aside the theory of prohibiting public seances. Out of a thousand experiments, one may be injurious and the rest harmless. I know that in Paris I attended many meetings of mesmerists, hypnotizers, and spiritualists. I have seen many poor exhibitions; I have seen also many wonderful effects, and remarkable things done, and in thus allowing public exhibitions, we might some day see some interesting development. Thus public exhibitions will become a little more frequent, as they are in parts of Europe. The matter is very hard to settle, and those who have indulged in experiments know how difficult it is to find good hypnotic subjects. I do not feel quite free, for personal considerations, to give extended views on this subject, which I have carefully studied. I, at present, prefer to listen and to learn rather than to advise and to speak on this deep and interesting matter, in which I foresee the solution of many a problem of the science of life—past, present, and future.

Dr. E. P. Thwing: The subject covers a wide continent of thought. Is hypnosis a neuropathic condition? Does it involve a lack or loss of integrity in cerebral structure or function? Is its proper induction at all perilous to the general nervous system? Does the will become less resolute, or can it be invigorated and mental perversities corrected? Can physical disabilities, as well as neurotic troubles, be alleviated? A multitude of such questions occur to the physician. But when we look at the juridic aspects, the field broadens. It is worth our while candidly to canvass them.

At the outset we are confronted by two divergent tendencies, the one leading to exaggeration, the other leading men to belittle, disparage, and ignore the matter. Of the former, we have illustrations in recent criminal trials here and in France, where ingenious but happily ineffective efforts have been made to disguise or deny criminal intent by assuming that the accused was irresponsible, because susceptible to psychic control. On the other hand, some intelligent people, including physicians, relegate the facts of hypnotism to the same category of delusions as Perkins' tractors and the waters of Loudre. A still larger number admit the facts, but advise their concealment. Ostrich-like, seeing danger, they would bury their brains less they suffer harm, ignore the force lest some one might pervert it. Assuming, however, freedom from these extremes of indocility and exaggeration, what may be considered as fairly settled?

1. That this dreamy state is not necessarily a disease. That neurotic conditions predispose one to it is admitted. But those possessed of the finest minds have yielded, and their experiences from the days of Hippocrates till now have been recorded. Dr. William Smith, in his Bible Dictionary, says that "many, if not most of those who have left the stamp of their own character on the religious history of mankind, have been liable to pass into this abnormal state."

2. It is equally true that the results need not be harmful. The lamented Dr. George M. Beard, whose experimental acquaintance was so wide and thorough, speaks strongly of the advantages, and under my own observations the most gratifying results have been reached, and unsolicited testimonies have been given as to the value of hypnosis in general therapeusis and in minor surgery, where not only pain has been abolished, but that prescient fear of pain which equally devitalizes the nervous system.

4. Hallucinations created may be made to continue for weeks, at least, afterwards, and so to tyrannize subsequent actions. This is one form of emotional insanity frequently seen in common life in what is called infatuation. A continuous subjugation of one's will to another, continuous perversions of moral, visual, or tactile impressions may unhinge one's faculties. Therefore—

5. Legal supervision of the matter is timely and proper. Recent interdictions by boards of health of the performances of traveling operators in this line of business were legitimate. In some cases the society for protecting animals against cruelty might well have interfered.

6. The use of this condition as an inquisitorial agent is not justifiable. No revision of the penal code seems called for at present. These and other points are considered in a paper read before this body April 10, 1889, which appeared in its journal, and, therefore, need no amplification."

These replies, and the replies sent from those close at hand before the February session, will seek to open the discussion of the legal aspects of hypnotism, and awake, as I hope, responses from the students of the science in Europe, and indeed in all foreign countries.

My object in thus bringing these eminent scientists to speak on a topic of such public interest at the present time, and which I am surprised to see is mainly outside the medical profession in this country, was to call attention to the labors of our standing committee, and to invite views from all students of the science everywhere, and I shall forward this paper to such men of science as I know take an interest in this study, to elicit their replies to the legal propositions, so forcibly presented in the report, from which I enclose the propositions under discussion.

I quite agree with Prof. Jastrow as to the unwisdom of limiting its use to physicians in any restrictive legislation, and if Prof. Church correctly reproduces the action of the Medico-Legal Society of Chicago, as recommendiug "that its use be limited under penalty to properly qualified medical men," I could not bring myself to consent to such legislation.

As a rule, physicians know next to nothing concerning it, especially in New York City. In Chicago it may be different, but here I would not be able to name more than half a dozen who have investigated it.

Those men of science in this country who have studied it, aside from the well-known names of Beard,W. A. Hammond, Prof. E. P. Thwing, C. H. Hughes, and not half a score in all, are rather students of science than doctors of medicine.

There is great force in Prof. James's broader vision of the true relation of scientific inquiry to the laws. The legal aspects of the question are upon us. The Bar and the Judiciary are in duty bound to carefully and calmly investigate, and, so far as possible, define the phenomena, and place its true limitations regarding personal and, certainly, criminal responsibility.

There is ten-fold more interest and desire for thorough examination in this country among laymen of all classes at the present moment than among medical men in America. This is not likely to remain so. Medical men who once grapple with this question will be its most successful explorers, for the reason that they have greater facilities, and should be more nearly related to that branch of medical science touching on neurological, mental, and psychiatrical studies. The lustrous names in science of the French schools to whom I have alluded, and the brilliant galaxy of names upon the staff of la Revue de-l 'Hypnotisme of Paris,

of Hack Tuke in England, of W. W. Ireland in Scotland, of Dr. Norman Kerr, who assails it, of Krafft, Ebing and Kornfeld in Austria, and the men of science in Belgium, Italy, Spain, Germany, and the Dutch, Russian, and Scandinavian countries now engaged in these studies, make it impossible for men of science in America to ignore it.

If this paper shall have aroused any interest in the problems which the report of the committee now presents, I shall feel amply repaid for the space allotted to the topic in the present issue of this JOURNAL.

NATIONAL AND STATE CHEMISTS IN THE COURTS OF LAW.*

BY CLARK BELL, ESQ., PRESIDENT OF THE MEDICO-LEGAL SOCIETY OF NEW YORK.

CHEMISTRY.

Chemistry stands as a base, as a foundation and corner-stone for nearly all science; on it rests most of the scientific research of our era.

In medicine it lies at the very root. A chemist need not be, and the great chemist doubtless ought not to be, a physician. But no physician should dare to enter even the portals of the temple of medicine without bathing in the waters and acquiring the mysteries of chemistry.

Chemistry seems to my eyes to be not unlike the angel who rolled the stone away from the sepulchre two thousand years ago, revealing those mysteries which the faithful see in the resurrection, aud opening the door and way for the light to come forth.

Chemistry is the prolific mother of all the world's wealth. The earth is her treasure house, the sea her hand-maiden, the air and fire her willing servants, who come at her beck, and go at her nod.

Steam and heat are only too happy to bear her burdens, and light and electricity are her swift-winged mes-

*Read before the American Chemical Society, December 31, 1890, at Philadelphia. Read before the Medico-Legal Society, February 11, 1891.

sengers. Her students and votaries live in that charmed life and atmosphere, in which she envelopes her mysteries.

To her there is nothing new, but she withdraws the veil which obscures human vision in our century, to her favorites little by little, as to secrets, that she may have blazoned at noonday, in the prehistoric times, to the priests, who then kept up the sacred fires upon the altars, within her temples.

To-day she tells us, by the spectroscope, the organic constitution of the sun, and speculates upon the gases, and incomparable heat of fires, at the center of our solar system, which we see reflected in the organism of the myriads of the fixed stars.

She is greater than fortune, for all the known gems of the world do not equal the contents of a single cabinet, in any one of thousands of apartments in her treasure house.

She has unfolded to our era many of her old truths, which touch on the life, health, and happiness of mankind, and which lie underneath all the commerce, the industries, and the arts of the world, and touch on every side the civilization of the age.

She holds the key to all the chambers of knowledge now sealed to our vision, and it is to her we look, within the next century, for the advancing steps of a higher civilization, depending upon her caprice as to how much farther she may put aside that impenetrable curtain, which conceals and hides the unknown and unattainable.

When she speaks as a witness in the tribunals, where life and death and character are in the balance, she is always voiceless, unless absolutely infallible.

If she does not demonstrate beyond question, or cavil, or doubt, she should be silent.

The light from her lamp must be clear, certain, unerring, true, exact, and unquestionable.

She deals not in suspicion, not in conjecture. If in doubt, her evidence must not be taken, nor her voice heard.

If the poison is found, if the analysis detects it, if all proper precautions are taken, and the facts remain, then her voice is inexorable because it is truth. It is the voice of nature, the voice of the Infinite.

This highest evidence, this light which science throws upon the labors of the courts, in the administration of justice, deserves in our States that careful recognition which exists in many other countries of the world.

We need such a man at the service of the nation as Dr. Thomas Stevenson is to the Government of Great Britain, who succeeds that eminent man, Dr. R. Swayne Taylor.

We need such a man here as Brouardel is to France, and as the great Orfila was to his own country.

Such a laboratory at Washington, with one of our best chemists at its head, would advance the study of the science incomparably beyond our present ideas and plans.

It would be the centre of all the schools, for the study of the science, both at the National Capital and in the States, worthy the nation, and worthy the science.

The administration of justice in criminal trials, notably in cases of alleged or suspected poisoning, deserves the thoughtful attention of jurists, publicists, and legislators.

The duty lies upon every human government organized for the full protection of society, to take every step in its power, as well to trace and detect the prisoner, as to defend the innocent unjustly accused or suspected.

So far as human punishments go, there is nothing the guilty can suffer, short of actual death, more terrible than

that which the innocent endures, who rests through life under the general and apparently well grounded suspicion and belief of guilt.

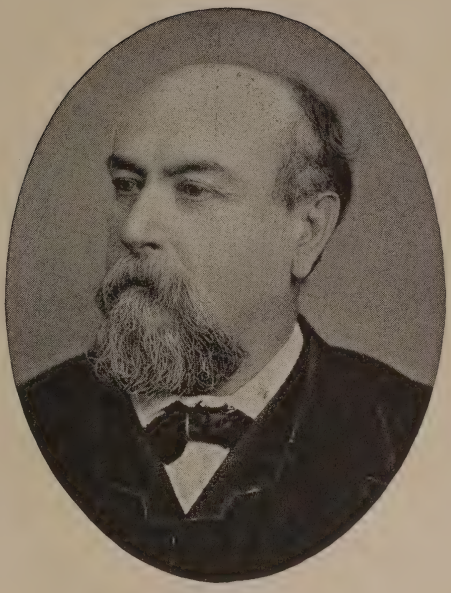
The problem in these cases usually is: Was poison administered by the accused? And all will agree with the wisdom of the legal maxim, "Better ten guilty ones escape than one innocent suffer."

Cruel as is the fate of the innocent unjustly accused, wrongfully suspected, and resting through life under the suspicion of guilt, it does not touch upon the borders even of that terrible despair endured by the innocent one wrongfully committed and condemned who suffers the extreme penalty of the law.

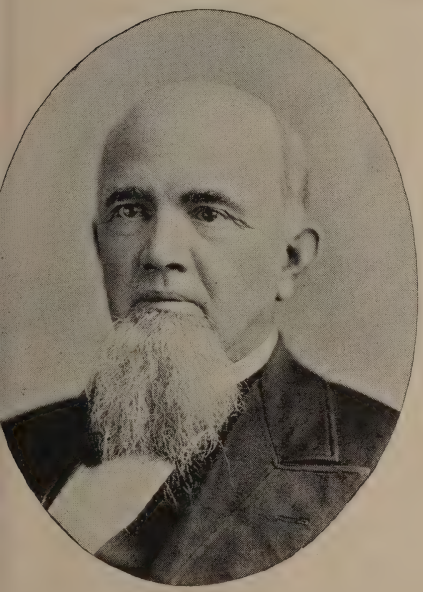
In a government like that of the United States of America, composed of several States, united as a whole, where the State authorities assume the responsibility for all cases, except such as belong exclusively to the jurisdiction of the general government, the responsibility is divided between Congress (whose duty is clear in cases within the national jurisdiction as to the trial and punishment of offenders under and against the laws of the nation) and the legislatures of the States, for offences committed against State laws.

The American Union, however, is the guardian, protector, and foster-mother of all the people of all the States, and has the power, the right, and should be quick to assume the duty, of enhancing the public good, even though the effects and beneficial results fell mainly on the poor, the wretched, and lowly.

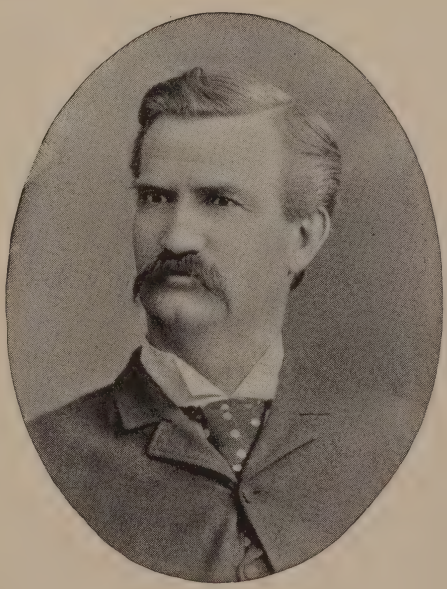
Every criminal judge, prosecuting attorney, and more especially every counsel for the prisoner, in this class of cases, acutely feels, the great public need of skilled and competent chemical advice in such cases—advice based upon the most careful analysis, the most critical



HON. JOHN P. WHITE,
Presiding Judge.



HON. JAMES M. HURT,
Associate Judge.



HON. W. L. DAVIDSON.
Associate Judge.

TEXAS COURT OF APPEALS.

and crucial tests, with the aid of every appliance known to chemical science.

Every consideration binds our judgment to the decision that this advice should be unbiased, impartial, clear, able, and convincing.

The accused, if poor, under our system is absolutely powerless to obtain this evidence.

The Government, if bound to protect the innocent, has taken no steps to discharge its obligation.

The duty to provide a national chemist is too plain to be even challenged.

It cannot for one moment be denied.

The only question is, or should be, how can Congress for the nation, and the Legislature for the States, best meet this issue and discharge this obligation?

The cost of a careful and elaborate chemical analysis in a poisoning case, where the accused is poor and friendless, is so great that our present system is a practical miscarriage of or denial of justice, when the poor, though innocent, stand accused.

We submit that the plain duty of Congress is to create and designate a public official, to be called the chemist of the nation, whose duty should be, by his oath of office, to conduct all such investigations, as a careful searcher after the truth, as well for the accused as for the people.

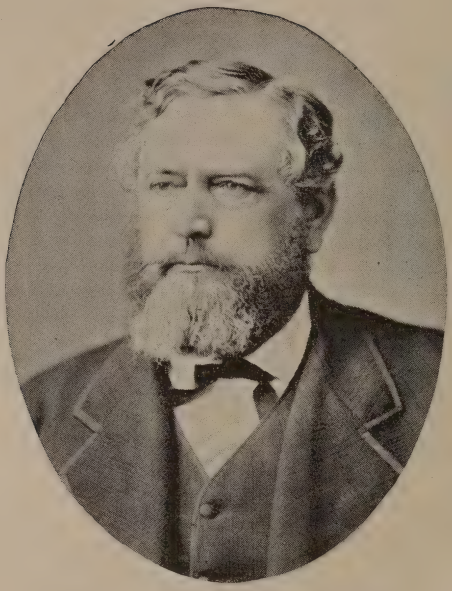
The salary should, of course, be sufficient to command the highest talent in the nation, and the laboratory should be so equipped as to reflect credit on our Government for its completeness, in every respect, known to the student of chemistry or in contrast with any laboratory in the world.

For the States, it is on too low a plane to discuss such a question as this, in its relation to the whole people of a State, and to oppose such a measure in a State upon the only possible foreseen ground, that of its *cost.*

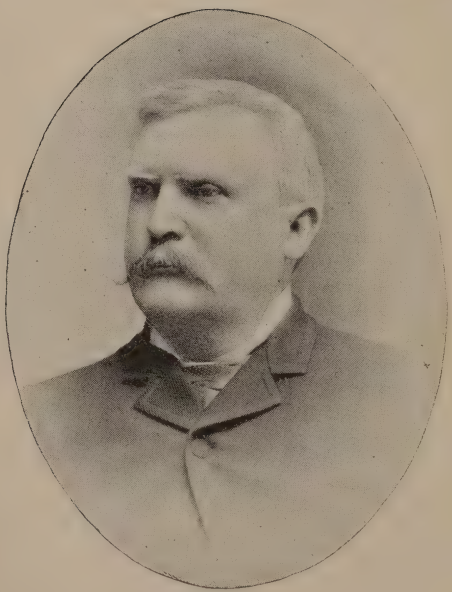
If any State in the American Union is so small, or so poor, as to gravely weigh the cost against public honor and duty, it should consider how it could meet its obligation, by obtaining the aid of a sister State by suitable legislation.

A select committee of the Medico-Legal Society has been considering the subject of recommendations I had the honor to make to that body, and I ask the co-operation of the national association of the chemists of America in a movement so intimately connected with the honor and dignity of the profession you represent and so closely connected with the rights and protection of the people of this country.

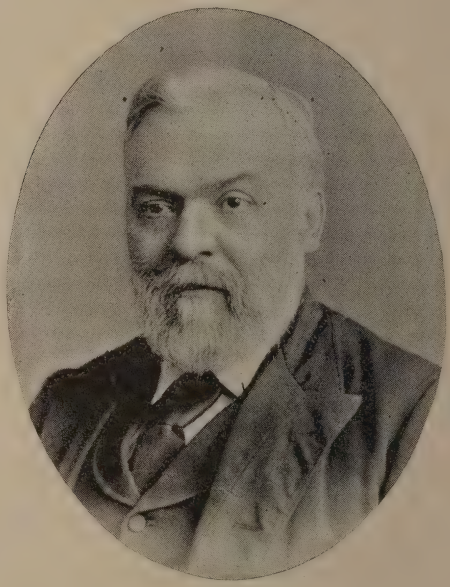
NOTE.—The report of the majority of the Select Committee of the Medico-Legal Society made a report favoring such an officer in the nation and also in the several States, at the February meeting of 1891, which was unanimously adopted by the Society at that session.—EDITOR.



HON. CLINTON McKAMY WINKLER,



HON. GEORGE CLARK.



HON. SAMUEL A. WILSON.

EX-JUDGES TEXAS COURT OF APPEALS.

MECHANICAL RESTRANT IN THE CARE AND TREATMENT OF THE INSANE.

When PINEL struck off the chains and manacles that restrained the insane at the Bicetre, in Paris, in the days of the French Revolution, he grievously offended the Superintendents of the Asylums of France, in depriving them of the right of exercising their discretion as to restraining the insane patients, either for their own good or from doing bodily injury to others.

It is not probable that many medical men in France in charge of the insane believed it possible to keep these unfortunates safely without the bonds, which this eccentric, but wise and far-seeing, enthusiast, broke into pieces never to be again riveted upon the limbs of Frenchmen.

Recently France placed his statue in her chief city, to commemorate an act and life which should have canonized him, if relief from needless human suffering is a virtue, and of beneficence to the race.

The scales that fell from the eyes of those who deemed these safeguards absolutely necessary for the personal safety of keepers and the good of the afflicted, weighed equal in that eternal balance which in its other cup held the broken shackles declared no longer necessary in the insane asylums of France.

GUISLAIN broke the same magnificent truth to Belgium when he inaugurated the doctrine that bonds, manacles, and restraints were not the royal roads or means by which the "mind diseased" could be brought back to sanity, and that these were not the true methods for the proper care and treatment of the insane.

The labors of the elder TUKE, followed by grand JOHN CONOLLY, inaugurated that crusade against the horrible abuses of the insane in Great Britain, which the Earl of SHAFTESBURY so vividly described in his earlier labors, and which he lived long enough to see banished from British asylums by universal popular acclaim.

While these grand and noble reformers were marching with splendid upward strides on the eastern shores of the Atlantic, the American leaders of Alienistic thought and progress seemed ignorant of this enormous revolution in mental medicine abroad, and the atrocities, barbarities, and abuses of the helpless and defenceless insane went on here, almost without hope of relief or remedy.

I have seen, in an almshouse in this State of New York, a naked woman, confined in a dark room, without light, with a grating for a door, without bed or clothing, sleeping on straw alone, in all ways treated like a wild beast, which she of course in her condition much resembled, lying in her own ordure, and this not so very long ago, and the Superintendent of that asylum, in common with Superintendents of the other American asylums where restraints were used, believed all these terrible restraints and appliances were indispensibly necessary, and would have so sworn in a court of justice, with a free conscience.

Dr. ALICE BENNETT, Superintendent of the Pennsylvania State Hospital for the Insane, at Norristown, told me that when the Philadelphia Almshouse burned a few years since and she offered asylum to some of the women who had been inmates, they were sent to her chained at the legs, like criminals!

But, gradually, came in recent days the silent growth of a bloodless revolution of thought, that, like the trade winds, blew westward from England, France, and Belgium across the Atlantic—that new doctrine of PINEL, of the elder

Tuke, of Guislain, and of Conolly—that the insane were men and women of human flesh and blood, and that kindness and tenderness, love and affection, were stronger and more efficacious with them than even bands of iron or hoops of steel.

And soon came out of the darkness, American Superintendents, one after another, who, reared under the old teaching, and filled with other traditions, imbued with their Anglo-Saxon hate and distrust of change and the introduction of new ideas, determined to try and see if the insane needed chains or bonds or muffs or camisoles, and who having tried, tasted, aud succeeded, strove on until they stepped up into the bright, eternal, and shining light of the grand truth that restraint was not necessary at all.

Englishmen like D. Hack Tuke and George H. Savage, who knew the high standard of British asylums, could not have dreamed of the existence in our own day of such abuses as existed here, and as the former found at Longue Point Asylum, in Canada, and in other quarters, which are now, thank God, fast disappearing.

Onward swept the current of reform, long delayed by that sturdy fighter, Dr. Gray, of Utica Asylum, who, with his strong personality, kept New York lagging in the rear of the movement, until, at his death (timely for this reform), his cribs and other appliances were swept away by an irresistible impulse and current, that brought the New York State Hospitals, almost at a bound, into the front rank, under the impulse given by Dr. G. Alder Blumer, the pupil, but not in this respect the disciple of Gray, into a practical abolition of mechanical restraints, which had hither to been almost universal and are now almost wholly abandoned in the Empire State.

There are those who, surviving a great revolution, see not its results. They are blind to what all else see, and, like

Ephraim, are joined to their idols, and should, like him, often be left alone. Such are those scattered men who, here and there standing alone, and surveying the field that has been swept by the deluge of advancing thought, are oblivious and unconscious of what has has been carried off by the flood. They stand where their fathers and grandfathers stood, and they use the restraints they learned to use in their youth and practiced in their middle life, and, having ears, hear not the rushing of the waters, and eyes, see not the effulgence of the light that has come in after the deluge, and with its beneficent rays illumined all the landscape of scientific thought and progress.

Dr. Henry Maudsley, once, dining with me at my club in New York, related an anecdote of a physician from a private asylum calling on him to see if he could borrow a camisole for an experimental trial, and how indignantly Maudsley demanded some justification for his thus imagining for a moment that he would have such an implement in his place, and Dr. Maudsley stated to me on that occasion that he never used a camisole in his life.

Dr. Peter Bryce, one of the ablest of American alienists of our generation, a pioneer in the American reform movement of non-restraint, in his last annual report made his usual announcement of the success that had crowned their efforts for ten years in the Alabama State Hospital, where there had been, in a household of an average of 1,000 patients, no resort whatever to any species of mechanical restraints for either surgical or other purpose, and using this remarkable language:

"Not a vestige of restraining apparatus of any kind is to be found about the premises, nor has there occurred a single case in the wards of the Hospital during this long period which seemed to justify or require its use."

This extract from his report was published in the MEDICO-LEGAL JOURNAL, Vol. 8, page 311, (March number, 1891.)

The same number of the JOURNAL contained editorial comments upon Dr. Bryce's report (P. 373), making the contention:

1. That the fact that non-restraint had been so successfully and so long practiced at such asylums as the Alabama State Hospital, under Dr. BRYCE; the Pennsylvania State Hospital for Insane Women, at Norristown, Pa., under Dr. ALICE BENNETT; the New York Asylum for Insane at Willard, under Dr. P. M. WISE for so many years, and since under his successor, Dr. CHARLES W. PILGRIM; at St. Ann, Paris, under Dr. MAGNAN; at Broadmoor Criminal Asylum, under Dr. WILLIAM ORANGE, and his gifted successor and pupil, Dr. DANIEL NICHOLSON had demonstrated that mechanical restraints could no longer be claimed to be even necessary, much less *indispensably* so, and—

2. That the claim that "a superintendent should have the right to resort to mechanical restraints only in extraordinary cases, and when all else fails" should be conceded, and as a consequence the whole question relegated "to the discretion of the Superintendent," was both unsafe and fallacious; because—

(*a.*) In PINELS' time what was done was under precisely such a discretion, and the same was true in CONOLLY'S day, and in every asylum in the world where it is now practiced, the Superintendent is usually sincere and fairly honest in believing it to be necessary, and—

(*b.*) That it retarded recoveries, and inflamed and outraged the patient so as to put him in grave dangers, and converted asylums into a pandemonium, as asylums frequently are where it is practiced, and—

(*c.*) A comment upon recent utterances of distinguished English alienists which had been quoted to sustain prac-

tices and abuses that would not have been countenanced for a moment in British asylums.

These publications led Dr. THEO. DILLER, of Pittsburgh, Pa., to ask the publication of a paper taking the opposite views. The MEDICO-LEGAL JOURNAL is not willing to reject the opinions and views of those who differ from its editor, and Dr. Diller's paper is given, as well those of other gentlemen qualified to speak on this subject on both sides of the contention. The paper of Dr. Diller is given:

TO THE EDITOR OF THE MEDICO-LEGAL JOURNAL:

Sir:—It is to be feared that many who advocate entire non-restraint of the insane take this position not so much because they believe it to be *right*, as they believe this position to be *politic*. They know full well that among well-meaning philanthropists who have no practical experience in dealing with the insane the statement that "no restraint whatever is used" will be hailed with great applause. Seemingly they are far ahead of their brethren who advocate "judicious restraint," and accordingly they receive greater *eclat*. In my opinion the "entire non-restraint" men do not really treat their patients as kindly as the "judicious restraint" men. This latter class, it must be remembered, is a long-suffering one. It is no small matter for men like Savage and Hack Tuke, who are among the most humane and progressive of the Superintendents, to be continually having insinuations and innuendoes cast upon them by their hyper-righteous "absolute non-restraint" brethren. It is bad enough to intimate that the "judicious restraint" men have less tact and judgment than the "non-restraint" men; but to charge them with being less humane is going much too far.

Drs. Hack Tuke and Savage restrain patients who, if they were under the care of Drs. Bryce and Wise, would not be restrained—for certainly Wise and Bryce must handle the same kind of patients that Tuke and Savage do. Now, is it

fair to infer that these patients, who were restrained, would have been better off had they not been restrained? I answer, most probably *no*; but on the contrary they were better off for being restrained. They were more humanely treated.

Let us suppose that Dr. Savage restrains a patient suffering from that most terrible of all forms of insanity, acute delirious mania; another one in the violent fury of post-epileptic excitement; another (a paranoic), who would terribly mutilate his body in obedience to imperative conceptions. Dr. Bryce would, I am sure, also do something; but at all events he would *not* restrain these patients. *What would he do?* He *could* control all these patients by having strong, vigorous attendants constantly hold them, or be so near them as to be ever ready; he *could* also control them by giving $\frac{1}{3}$ gr. morphia with 1-60 gr. of hyoscine (repeated, if necessary), or some other hypnotic or soporific. Ah! but I have almost forgotten—kind words! These do wonders. Yes, so they do, in many cases of insanity. But in the instances mentioned they would do about as much good in deterring these patients as they would in mitigating the force of a Dakota blizzard. Now I hold that a merciful restraining apparatus is far more humane than the use of strong drugs or strong attendants (although both these have their places). But if Drs. Bryce and Wise would manage the cases cited not only without any restraint, but also without the use of the other means I have suggested, I would very much like to know how they *would* do it.

I have myself done patients injustice by being at one time too much imbued with the "absolute non-restraint" idea. Let me relate a single instance. I had under my care, while assistant physician at Danville, Pa., a lady who suffered from delusions of persecution. She was occasionally greatly agitated. In one of her disturbed periods she developed the

most violent suicidal proclivities and desires to inflict bodily injury upon herself. I ordered two attendants to watch her closely, but not to harass her by taking hold of her unless absolutely necessary. In the evening I found the patient with a terrible bruise on her forehead, the result of bumping her head against the wall. An attendant was ordered to be with her constantly. That same evening the patient, in spite of this surveillance, tore three of her finger nails off, and said she was determined to "finish the job." Next morning she was placed under the especial care of two attendants, who walked with her, and never left her for an instant. In spite of this she took a dive head-foremost on the floor, and broke her nose. I now laid aside my "absolute non-restraint" notions, and put a muff on her, and permitting her to walk in the ward only arm-in-arm with an attendant; she was restrained in bed at night. This rigid system was kept up for four or five days. It was gradually removed as the unfortunate woman returned to her usual condition. I may say that this patient was a very cultivated, refined lady. When her usual medical condition had returned she said to me one day: "Sir, I fear that, owing to your contributory negligence, I shall have a deformed nose all my life. Did you not know that I was utterly incapable of resisting those terrible inward promptings to kill myself?" I felt the rebuke keenly.

I hold that it is wrong in itself to take the stand "no restraint under any circumstances," for the Superintendent who does take it may allow patients to mutilate themselves or suicide just to make a record in following his cast-iron rule.

Kindness! So much cant and sophistry has been uttered on this subject that one is almost nauseated to read some of it. Of course it is a wondrously potent quality in a medical office or attendant in an insane asylum, or in any one else; but to contend that it will invariably have power in quieting

patients, is farsical. Kindness would have no more effect on the violence of the epileptic than it would have on the infuriated bull charging on his victim. Of course harshness is *always* wrong.

Certainly there is danger that restraint maybe (as it has been), carried too far. Is there any good thing which may not be abused? There is more danger to patients in asylums where absolute non-restraint is the rule than where restraint is used in proper degree and amount. As a matter of fact but a small amount of restraint will be needed in a well-regulated asylum containing as many as a thousand patients.

The cast-iron rule of "absolute non-restraint" is scarcely less pernicious than too much restraint.

THEODORE DILLER.

Pittsburgh, Sept. 28, 1891.

Dr. P. BRYCE, to whom I sent a copy of Dr. Diller's paper, requesting his views, replied as follows:

ALABAMA INSANE HOSPITAL, Tuscaloosa, Ala., Oct. 8, 1891.

TO THE EDITOR OF THE MEDICO-LEGAL JOURNAL:

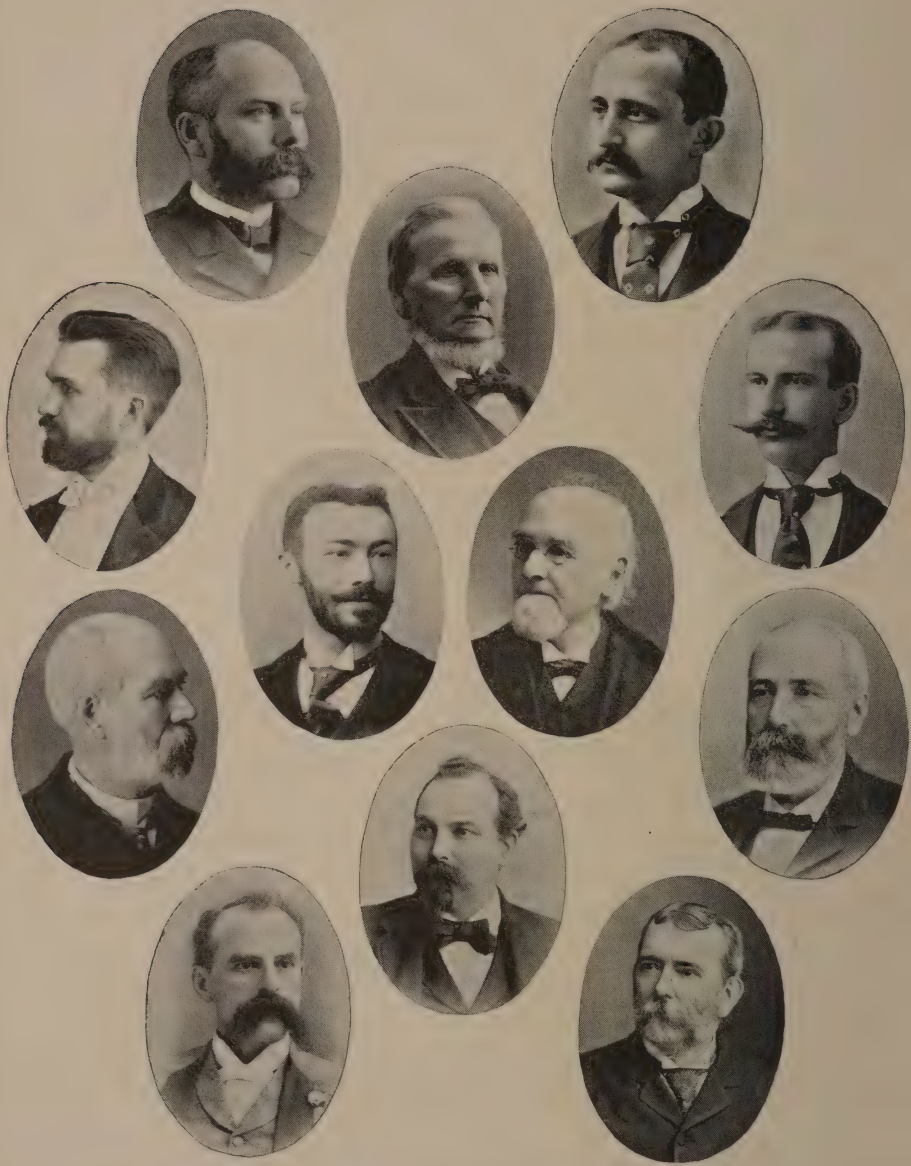
Dear Sir:—I have read Dr. Diller's paper carefully over, as you request, and find nothing in it that has not been satisfactorily answered a hundred times within the last decade.

The point the Doctor seems to be aiming at is that "judicious restraint" and not "absolute non-restraint" should be the guiding principle in the management of the insane. He does not deny that there are scores of hospitals, both at home and abroad, that are successfully conducted without the use of mechanical restraint of any kind. He does deny, however, that this system is either as humane or as successful in its general results as what he designates the "system of judicious restraint." Of course the mere affirmation of a loose and narrow generalization like this carries no weight with thoughtful, disinterested inquirers after truth. "Judi-

cious restraint" sounds very well on paper, but when and where was it ever put into practice? In the use of power the best of men can rarely be trusted. But when it is borne in mind that the exercise of this power is distributed among hundreds of superintendents, asssistant physicians, supervisors, and nurses, it is really amazing that any thoughtful physician, who has had the least experience in the care of a large hospital for the insane, should be found to advocate it. I am speaking now in no disparaging manner of my *confreres*. We are all alike. I know by experience that I cannot trust myself to act always "judiciously" in the exercise of absolute authority. Neither can I ascertain all the facts in every case, among my twelve hundred patients, calling for the exercise of this power; and I am therefore compelled, even were I "judicious" myself, to rely very largely upon the judgment of others.

In a large hospital of a thousand or more patients, how can the medical superintendent or his busy assistants find time to investigate carefully every case that is reported by the supervisors or nurses as proper subjects for mechanical restraint? In the application, therefore, of what Dr. Diller designates "judicious restraint" we see that so much depends on the temper and discretion of subordinates, that abuses must almost necessarily creep in.

But my own experience has taught me that mechanical restraint, whether "judiciously" applied or not, is in the end productive of more harm than good so far as the welfare of the patients as a whole is concerned. The mere fact that strait jackets, muffs, bed straps, crib bedsteads, and other such degrading apparatus are used in the hospital is quite sufficient to engender a spirit of insubordination, distrust, and discontent among the inmates. And its effect upon the nurses and others having immediate control of the patient is hardly less demoralizing and pernicious. It quickens the



PORTRAITS OF EMINENT ALIENISTS AND MEDICAL MEN.

GERSHOM H. HILL, M. D.,
Independence, Iowa.

THEO. DILLER, M. D.,
Pittsburgh, Pa.

WM. P. SPRATLING, M. D.,
Morris Plains, N. J.

H. O. JEWETT, M. D.,
Cortland, N. Y.

G. R. TROWBRIDGE, M. D.,
Danville, Pa.

W. H. HAVILAND, M. D.,
Butte, Montana.

MIDDLETON MICHAEL,
Charleston, S. C.

J. T. STEEVES, M. D.,
St. John, N. B.

S. V. CLEVINGER, M. D.,
Chicago, Ill.

F. T. FULLER, M. D.,
Raleigh, N. C.

O. W. ARCHBALD,
Jamestown, Dakota.

R. J. DUNGLISON, M. D.,
Philadelphia, Pa.

temper, and creates a spirit of impatience, often of arrogance, which is extremely harmful. It begets, too, a spirit of intolerance which leads to threats, irritates and harasses the patient, instead of kind words, which soothe and placate him.

That a case now and then presents itself in which mechanical restraint would be of service to the patient, I do not doubt, but the effect of such discipline upon the household at large would be anything but beneficial, and it would be far better that this exceptional patient should suffer for want of such restraint, than that the peace, happiness, and self-respect ofthe entire household should be destroyed by the use of it.

But even these exceptional cases are of much rarer occurrence than Dr. Diller would lead us to believe. In the course of eleven years of absolute non-restraint in a household of twelve hundred patients, I cannot recall a single case that has suffered the least damage for want of restraint—in fact that has not been better off without it. The case of acute delirious mania referred to by Dr. Diller, and the lady who suffered from such intense nervous excitement, growing out of her delusions of persecution, would have been placed in seclusion in this hospital, and not permitted, as they were, to rush up and down the wards, butting their heads against the walls, and pitching headforemost upon the floors. These delirious forms of insanity should be kept quiet, in bed, if possible, and in an apartment separate from the main wards, prepared especially for their safe keeping and treatment. Quieting remedies should be administered, and everything done to abate the intense nervous excitement. Under such treatment in this hospital these cases of acute delirious insanity are generally soon quieted, and in a few days are able to take their accustomed places in the work rooms or in the wards. It may be that an extra nurse is required for a while,

to keep the patient in bed, and to give such attention as a very sick or delirious person needs; but this is a requirement easily met, and withal comparatively inexpensive.

There are a number of chronic dements in every hospital who occasionally strip themselves of their clothing, destroy furniture, break glass, etc., and these persons, more than any others, would seem to call for manual restraint; but our experience goes to show that even they are better off in the end without it, and that a little closer watching and training on the part of their nurses does more to break up the bad habit than the severer measures of restraint.

It is certainly true, in the history of this hospital, that there is less destruction of furniture and clothing, less breakage of glass, less violence to self and others, and less turbulence generally, under the system of absolute non-restraint than there was when we practiced what Dr. Diller calls "judicious restraint." Not only so, but the inmates of the hospital are happier, have more respect for themselves, are less discontented, more industrious, more confidential in their relations to the officers, nurses, and others, and more appreciative generally of the effort made to secure them all the comfort and liberty consistent with their mental condition. There has been fewer suicides, fewer fights, fewer injuries to self and others, since we abandoned restraint than there was before.

Ninety per cent. of our women and seventy-five per cent. of our men are daily engaged in useful and profitable labor. The men have the free use of spades, shovels, axes and other farming implements, while at least fifty of our better class of patients work in shops where a full set of carpenters tools are of easy access and in constant use. Accidents rarely occur from abuse of these privileges—so rarely, indeed, that I cannot now recall a single instance within the past twelve months. I believe this state of affairs is largely due to the

abolition of all mechanical restraint and other harsh measures in the treatment of the patients.

In conclusion, we find nothing in Dr. Diller's paper to induce us to change our views after an experience of eleven years in the non-restraint treatment of our patients. That the Doctor and others have tried the system and failed in securing satisfactory results is no evidence that the system itself is at fault or impracticable, and does not weigh one iota against the long, unbroken and successful experience of scores of hospitals for the insane, both in this country and in Europe.

Instead, therefore, of heaping personal abuse upon the advocates of non-restraint, and impugning their motives, as he does in the beginning of his paper, it might be more profitable for the Doctor to inquire a little more closely into their methods of management, and discover, if he can, the cause of his own failure, and the secret of their success.

P. BRYCE, M. D.,
Sup't.

I received the following reply from Dr. P. M. WISE, now Superintendent of the new St. Lawrence State Hospital, at Ogdensburg, New York, who was for many years Superintendent at the State Asylum for the Chronic Insane, at Willard, N. Y., to whom I wrote as I had before written Doctor Bryce:

ST. LAWRENCE STATE HOSPITAL, Ogdensburg, N. Y., Oct. 19, 1891.

CLARK BELL, ESQ.:

Dear Sir:—The nauseating effects of "non-restraint" literature upon Dr. Diller would indicate that he confined his reading to reports and discussions that were current a half dozen years since. He certainly has no reason to be "nauseated" by any non-restraint doctrine emanating from me, and unwarrantedly uses my name, as well as that of other esteemed medical men, in this connection. If he

would take the trouble and read my reports for the last seven or eight years he would find my position in regard to restraining apparatus in the care of the insane definitely stated.

Briefly stated, my belief is that any means, material, moral, or intellectual, that can be applied for the alleviation of insanity, is within the province of the physician to use. If it was my judgment that the application of a mechanical contrivance to an insane person would be the means of cure or improvement, there would be no hesitation in its application. I would not, however, follow the example of Dr. Diller, and tie an insane woman's hands in a leather muff to prevent her from breaking her nose upon the floor. It requires some intelligence, by the way, to select cases that would be benefitted by restraint, and it is remarkable how seldom it is used when the inquiry is so directed.

The restraint question is practically settled in this country, and Dr. Diller's threshing of old straw will not yield him anything. There is no difference of opinion at the present day among Superintendents who are abreast of the times; and, if the practice does slightly differ, it is a matter of very little importance, except in the estimation of some hysterical sentimentalists.

As a matter of practice, I do not use restraining apparatus. My assistants do not find occasion for its use, and my attendants do not understand its use, but this would in nowise deter me *from* its use, if, in my judgment, it wonld be a saving element in treatment.

I hope I am understood.

I am respectfully yours,

P. M. WISE.

Believing that the views of those who had experience in hospitals for insane, and others who had studied the subject, might be of service in arriving at an intelligent consideration of the question, and without regard to the views entertained

Dr. Wm. Orange is one of the most honored and influential names among British Alienists. For many years superintendent of the great Asylum for the Insane called Criminals, at Broadmoor, he has occupied a close relation to the Law Officers of the Crown. He is frequently selected as an expert by the Crown on questions of commutation of sentence of death.

He writes as follows:

12 Lexham Gardens, London, W.,
December 28, 1891.

To Clark Bell, Esq.

Dear Sir:—In compliance with your request I send you a few lines on the subject of the use of mechanical means of bodily restraint in the treatment of insane persons; although, in so doing, I am very well aware that I have nothing new to say upon the subject, nor, indeed, anything which has not been much better said, over and over again, in the past.

I have read the extract from Dr. Bryce's report, published in the March number of the Medico-Legal Journal, and also the letter from Dr. Theodore Diller, the proof of which you have been so good as to send to me, and I cannot for a moment doubt that, if these two papers are read, side by side, so that the manner and matter of the one may be compared and contrasted with the manner and matter of the other, there need be little fear as to the verdict.

Dr. Bryce sets forth his belief in these words: "That the insane, in public hospitals, can be controlled and treated more humanely, and with better results, without the use of strait-jackets, camisoles, muffs, wristlets, restraining chairs, bed-straps, crib-bedsteads, or any other of the various appliances known as restraining apparatus." And then he goes on to say that, for ten years, at the Alabama Asylum, with a household averaging nearly a thousand patients, "there has been no resort whatever to any species of mechanical restraint for either surgical or other purposes;" and further, that there has not "occurred a single case, in the wards of the hospital, during this long period, which seemed to justify or require its use." Thus, in plain language, does Dr. Bryce place on record his experience, and, for my part, I have only to say that, in this matter, my experience corresponds entirely with his.

Throughout the period of sixteen years, from 1870 to 1886, during which I held the office of Medical Superintendent of the Broadmoor Asylum,

which is an asylum established by the Government for the care and treatment of criminal lunatics in England, I did not find it either necessary or desirable to have recourse to any of the appliances enumerated by Dr. Bryce, in the extract quoted, nor did there, throughout that period, occur any case in which, afterwards, I had any reason whatever to regret the non-use of such means of treatment.

Such being my experience, it can readily be imagined that I give my most cordial assent to the terms in which Dr. Bryce states his belief in this matter.

If we now turn from the article of Dr. Bryce to that of Dr. Diller, we find that the contrast in manner and tone is as great as it is in matter.

It would be scarcely fair to assume that the tone of Dr. Diller's letter is characteristic of the school to which he belongs; and it may be hoped that there may be many amongst those who, to a greater or less extent, agree with the opinions which he expresses, who will feel keen regret at the general tone of his letter, and who will take an early opportunity to avow such regret. Dr. Diller, it will be observed, begins his letter by imputing the most unworthy motives to those who differ from him, and he does this in in a manner so offensive as to render the task of taking notice of his letter by no means a pleasant one; and it is to this cause, indeed, that I must, to a great extent, aseribe the delay, on my part, in fulfilling this task; for, if there really be any one who, after reading the writings of Conolly, could venture to make so monstrous a suggestion as that that humane physician, when advocating the disuse of mechanical means of bodily restraint, in the treatment of insane persons, was advocating, not so much what he believed to be right, as what he thought to be politic, I, of my own free will, should prefer to avoid entering into a discussion with such an one. As you, sir, however, have invited comments on this letter, which begins in a manner so unfortunate, I comply, although I must crave permission to make those comments very brief.

Dr. Diller, having commenced his letter with a gratuitous insult to those who venture to differ from him, goes on, in the next place, to sneer at the value of kindness in the treatment of patients suffering from mental disorders; and he ventures on the observation that "kind words," in certain cases, "would do about as much good in deterring these patients, as they would if addressed to a Dakota blizzard in mitigating its force." And here we have a very good example of the danger that is incurred by indulging in the use of illustrations. What, we may ask, has a Dakota blizzard to do with the question? and what similarity is there between a Dakota blizzard and a patient suffering from mental disorder? Does Dr. Diller wish us to understand that, although "kind words" would have no effect in mitigating the force of a Dakota blizzard, yet that complete success in this matter would be attained by the use of "a merciful restraining apparatus?" If this is really what Dr. Diller wishes us to understand, it would certainly be interesting to be favored with an opportunity of examining the kind of "merciful restraining apparatus" which Dr. Diller has been successful in applying to a Dakota blizzard; but if, on the other hand, it should appear, on inquiry, that the attempts made by Dr. Diller to mitigate the force of a Dakota blizzard by means of a "merciful restraining appa-

ratus" have been attended with no greater success than has attended the use by him of "kind words," what becomes of the illustration? I must confess that I find it impossible to regard the letter of Dr. Diller as being one which calls for any serious reply.

It will not escape observation that Dr. Bryce, in his remarks, is speaking of the treatment of the insane in public hospitals, by which expression it may be assumed that the writer is speaking of their treatment in institutions duly adapted for the purpose in view, both as to staff and as to construction. The possibility is always recognized that, under circumstances which are not favorable for the satisfactory treatment of persons suffering from mental disorder, it may become necessary, in some cases, to have temporary recourse to the use of mechanical means of restraint; not, most certainly, because such means are the best absolutely, but only because they are the best under the unfavorable circumstances. Where the choice is limited to a choice of evils, the best course is, doubtless, to choose the least.

Believe me, Dear Sir, yours very faithfully,

W. ORANGE.

Dr. RALPH L. PARSONS, a physician of extended experience in charge of public and private asylums, for years a member of the Medico-Legal Society, and one of its former Vice-Presidents, now at the head of a private asylum at Sing Sing, New York, responds to my inquiries as follows:

DR. PARSONS' PRIVATE HOME FOR NERVOUS INVALIDS,
GREENMOUNT, November 10, 1891.

TO THE EDITOR OF THE MEDICO-LEGAL JOURNAL:

Dear Sir:—The question regarding the use of mechanical restraint in the management of the insane is so broad and far-reaching that it cannot be satisfactorily answered within the scope of a short letter. In fact, many questions are involved which require separate answers, as:

1. Is mechanical restraint *ever* admissable? The answer to this must evidently be in the affirmative, as when the best endeavors of all the persons available to undertake the care of the insane person are not sufficient to prevent him from doing injury to himself or others; and this lack of ability may depend on a lack of physical strength, or a lack of skill, one or both of which conditions are likely to obtain when the patient is not within the walls of a hospital.

2. Is mechanical restraint ever admissable at a hospital for the insane? If there were an insufficient number of helpers, sufficiently skilled and sufficiently strong, to prevent the insane person from doing an injury to himself or to others, the answer must also be evidently in the affirmative. As many as six or eight persons, well skilled in the management of the insane, are sometimes required for the care of an insane person, when neither mechanical restraint, nor drug restraint, which is a form of mechanical restraint, is in use. And this lack of skilled help was the rule, rather than the exception, in asylums in former times, and is liable to occur at what are now considered as well equipped hospitals for the insane; for it is essential

to the proper care of an excited, dangerous patient that the attendants who undertake his care by their physical strength and powers of moral suasion or tact be sufficiently numerous and that they have abundant opportunity for rest, lest they become so exhausted as to lose their power of self control or their ability to perform their duties in a proper manner.

3. Is mechanical restraint ever advisable at hospitals for the insane which are so thoroughly equipped that all the skilled assistance needed is always at hand? Under this state of things it is safe to say that the patient can always be managed successfully without the use of mechanical restraint, and that usually this method is the best. But yet it would be very rash for any one to say that manual restraint alone would, in all cases, be better for the individual patient than mechanical restraint. The skilled physician in charge should be so untrammeled by rules or by sentiment that he could freely decide this question in any individual case. And it may safely be asserted that most physicians would at some time have under their care patients whom *they* could manage better by means of mechanical restraint than without. That some other physician thought he could manage better without such restraint, or that he really could so manage, would not alter the case. In every branch of medicine, or of any other calling, there are individuals whose skill, in some particular, exceeds that of their fellows; but this does not at all prove that their fellows are unskilled.

4. But there are objections to the use of mechanical restraint based on the theory that it tends to take the place of, or to prevent the employment of, such curative measures as may be indicated; and also that it tends to diminish the efficiency and assiduity of physicians and nurses in their attentions to the patient. It must be admitted that this danger exists. A similar danger exists in the use of narcotic drugs. But a danger of this sort should not be allowed to prevent the doing of what is for the best in any individual case.

The inference from the above would be that, practically, with average expert skill and with all needed help, mechanical restraint is advisable only in very rare and infrequent cases, but yet that even under this state of things it is sometimes advisable; while in lack of such help and skill mechanical restraint is not infrequently advisable.

RALPH L. PARSONS.

Dr. JAMES H. MCBRIDE, medical superintendent of a private institution in Wisconsin, thus replies:

MILWAUKEE SANITARIUM FOR NERVOUS DISEASES,
WAUWATOSA, Wisconsin, December 31, 1891.

CLARK BELL, ESQ., 57 Broadway, New York:

Dear Sir:—Your letter is at hand, and I enclose the re-print sent me. I think it is useless to discuss the question of restraint for the insane. It seems to me that nothing new can be said on this subject, and, as I have said once in print, it is one which, from its very nature, will never be settled. The claim that mechanical restraint should not be used at all, because if used it would be abused, is to me a very absurd one. The same argument would apply to chloral, hyoscine, and, in fact, to every drug that is usually

used in the treatment of the insane; indeed these drugs are much more apt to be abused than restraint, and when abused, the harm that results, much more lasting.

Very truly yours,

J. H. McBRIDE.

Dr. RICHARD GREENE, one of the leading English superintendents of county asylums, replies as follows:

COUNTY ASYLUM, BERRY WOOD, NORTHAMPTON,
13th January, 1892.

Dear Sir:—My views on the question of restraint or non-restraint have not altered during my experience of twenty-two years in county asylums. I believe it to be *possible* to treat the insane without restraint; but I do not believe it is always *desirable* to do without restraint; therefore I occasionally resort to it. Perhaps I should say I rarely resort to it. During the year 1891, with an average of 800 patients, I used restraint on one patient, the means used being the stitching of the sleeves of his coat to the sides of the coat. The patient was beating his cheeks to a jelly, and I considered this preferable to the employment of a couple of attendants to control him.

The Commissioners in Lunacy, in their Blue Book for 1888, when speaking of restraint, say, "We could not condemn its employment in every case and without exception, for to do so would, we thought, be adverse to the interests of the insane themselves." This view is, I think, held almost universally by the medical superintendents of our county asylums. Dr. Gardiner Hill, medical superintendent of the Wandsworth Asylum, says in his report for 1890, "Because this form of treatment is unpopular, it is no reason why it should be discontinued altogether, for there are exceptional cases in which the use of restraint may be fully justified."

By the way, you are wrong in attributing to Conolly the introduction of our non-restraint system. It was Gardiner Hill, the father of the above-mentioned Dr. Gardiner Hill, who was the first to abolish restraint. You will find this part of the history of non-restraint worked out by Dr. Richardson in the *Asclepiad* for the third quarter of 1887; and I referred to the question in a paper of mine which appeared in the *Universal Review* for August, 1889.

I remain very faithfully yours,

RICHARD GREENE.

Dr. C. B. BURR is a superintendent of long and extended experience in charge of one of the largest hospitals for the insane in Michigan, and his views are entitled to great weight, both from his practical knowledge, and from his long experience in contact with the insane.

EASTERN MICHIGAN ASYLUM, PONTIAC, MICH.,
November 16, 1891.

CLARK BELL, ESQ., Editor MEDICO-LEGAL JOURNAL:

Dear Sir:—Your polite note is received. I take pleasure in complying with your request to give my views in the matter of restraint in the management of the insane.

The institution with which I am connected has been committed to non-restraint as a principle for many years, and as a practice, restraint was virtually abandoned long ago. While committed to this principle, however, and believing it to be eternally right, it has not been pursued as a hobby, and the wisdom of mechanical restraint in occasional cases has been persistently set forth and defended.

The *principle* of *non-restraint* is *wise and right*—

1st. Because of the pleasanter relation and better feeling existing between attendants and patients where mechanical restraint is not applied.

The element of personal antipathy and antagonism so apt to to be present in the mind of a patient where mechanical restraint is used—particularly where a high degree of force is necessary to apply it—strains the subsequent relation of the patient to the attendant, and creates a feeling of soreness and disaffection which is apt to be enduring, and which on occasions materially interferes with the patient's recovery.

2d. Because of the danger lurking in the indiscriminate use of restraint.

The confinement of the limbs of a patient suffering with acute mania, for example, creates physical pain, lameness and discomfort, with resulting irritability. Excitement is prolonged and intensified, and the restlessness which springs from disordered brain action, not being given vent or diverted into healthy channels, increases brain perturbation, and may be the occasion of more violent excitement, acute exhastion, and death.

3d. Because the adoption of non-restraint as a principle develops the resources of attendants.

Given restraint as a frequent resource in the management of patients, it is the first expedient thought of, and is applied early and often. The insane energy which it should be the duty of the attendant to divert into useful ways, or repress within reasonable limits, is suppressed altogether. The attendant no longer sets his mind to the work of devising ways and means for individualizing his patients and meeting emergencies. A patient, for example, breaks out a light of glass, and is restrained. The impulse which occasioned the breaking of the glass is relieved by the act of destructiveness. To restrain him after the act is committed, as a rule, merely serves the purpose of increasing his irritability, and encouraging a spirit of lawlessness and violence. The impulse being relieved by the act which it occasioned, to restrain is equivalent to locking the barn after the horse is stolen. The recourse to restraint not occurring to the attendant, he devises ways and means to divert the patient's mind, when at some future time, he is threatened with recurrence of the impulse. He closes the stable door in time to prevent the theft.

4th. Because restraint promotes habits of degradation and untidiness.

The restrained patient is helpless. He cannot go to the closet without the

assistance of the attendants, and even if his mental operations are of such a character that he is able to ask for what he requires, he is perhaps deterred from preferring the request by the antagonism toward the attendant which the application of restraint has aroused. Further, if he is perverse, and bent (as so many patients are under those circumstances), on making the lives of the attendants uncomfortable, he will deliberately soil his clothing to create trouble.

5th. Because of the danger of the formation of the *habit* of restraining.

A patient will perhaps be restrained one day because circumstances have required this action on the previous day, while the mental condition of the patient may be wholly different. A spirit of timidity arises in the mind of the attendant, and he has not the degree of confidence in his patient which is so necessary to their friendly relations. He restrains him one day because of the fear that he may do something which he has done the day before, much to the patient's dissatisfaction, humiliation, and irritation.

6th. Because of the lack of moral or restraining effect upon the minds of patients or their associates where the use of restraint is frequent.

In a non-restraint institution a patient regards the application of mechanical restraint, used only at rare intervals and as a last resort, as an unenviable distinction, and avoids, as far as lies in his power, the necessity for its subsequent use.

7th. Because of the danger which exists of the use of restraint exciting in the mind of some susceptible patient a desire to imitate.

An hysterical, emotional girl, for example, who prefers any distinction, however unenviable, to being ignored, will sometimes deport herself in such a way as to necessitate restraint, provided she sees it used in other cases.

Restraint is, in my judgment, *absolutely necessary and unavoidable*—

1st. In certain surgical cases.

The importance of the use of restraint in certain surgical cases to promote quiet and to prevent the patient from disarranging important surgical dressings, re-opening wounds, and removing splints and bandages, will hardly be denied. No form of manual restraint can in such cases take its place.

2d. It is also absolutely necessary and unavoidable in a *very limited number of cases with homicidal tendencies.*

I should strictly limit its application to such cases as possess great strength and are persistently and determinedly homicidal. Where, notwithstanding employment, diversion, the adoption of various moral measures, and the exercise of all reasonable means to change the patient's mental action and substitute for the homicidal propensities amiable characteristics and natural impulses, efforts are unavailing, and where the great strength of the patient renders struggles with him dangerous to the life or health of himself or his attendants, I believe restraint to be entirely necessary and defensible.

3d. It is necessary and unavoidable in a certain number of *suicidal cases, and in cases where the propensity to self-mutilation exists, particularly if delusions are strong and persistent.*

If a patient displays these tendencies, and has physical strength, determination and cunning to the extent that constant personal attention during the day-time and the presence of a night-nurse during the night are not sufficient to deter him from yielding to his impulses, restraint is practically indispensible.

4th. It is also necessary and unavoidable in *prolonged, furious excitement, such as is seen but few times in a long asylum experience*, where manual restraint exercised by three or four attendants is insufficient to keep the patient within bounds, prevent him from dashing himself to the floor or agaisnt the wall or through the window, in his unreasoning and terrible frenzy.

Restraint is *possibly expedient and justifiable* in aggravated cases of destructiveness.

Here much caution should be exercised. In my experience, not one case in a thousand presenting destructiveness as a symptom would be a proper subject for restraint. Every expedient should be tried, and many tried, re-tried, and tried again, before the last resort (restraint—a confession of failure), is made use of.

On the day that this is written, the Eastern Michigan Asylum has in restraint one patient in 940 cases under treatment, and for the reason last referred to. At the time I began my asylum career, thirteen years ago, the institution accommodated in the neighborhood of 500 patients. Of these, it was at that time thought necessary to restrain upwards of a dozen or fifteen patients daily, and many of them nightly. Thus has reform in our attitude toward patients, and progress in their care, been displayed. With our 940 patients, there is now less noise and excitement, less general untidiness, vastly less irritability and disorder, and a much greater respect for life and property on the part of patients, than then existed, and the relations of attendant to patient are more friendly, and more like those of nurse and companion. Accidents are much fewer and damages far less extensive. Curtains, pictures, mantels, mantel ornaments, and bric-a-brac adorn all halls, without exception. Occasionally a patient in a disturbed hall will, in a moment of irritability or excitement, remove the ornaments from a mantel and throw them out of the window. Such instances are rare, however, and the public spirit among patients of respect for property leads them to co-operate with the attendants in protecting articles of furnishing from the onslaughts of the mischievous and malicious.

In conclusion, I would say (if this conviction is not to be inferred from the foregoing), that I am a thorough believer in non-restraint as a principle, and an earnest advocate of it at all times.

Very truly yours,

C. B. BURR,
Medical Superintendent.

Dr. NEEDHAM is a high authority among British alienists, and I quote from his report of 1888, at a time when this subject attracted so much attention in England.

Dr. Needham's report of Barnwood Home contains his views regarding mechanical restraint.

"No mechanical restraint has been used during the year, and seclusion has been resorted to very sparingly and only under exceptional circumstances.

"With a sufficient staff of competent and experienced attendants I consider these abnormal expedients to be practically unnecessary, and their frequent adoption to point to remediable defects which in no institution for the insane should be suffered to exist.

"Both of them are allowable as means of medical treatment, under infrequent and exceptional circumstances, and a superintendent would, I think, be unwise, who repudiated them altogether, because they are unpopular and, when abused, may lead to undesirable results.

"But he certainly would not be justified in their use from motives of economy or to obviate defects in the number or quantity of his attendants or nurses, or to save the trouble of resorting to more complicated, but less objectionable expedients.

"It may be said broadly that the modern practice of approximating asylums as closely as possibible in the furniture and decorations, and in the absence of special asylum features to ordinary dwellings, of removing unnecessary restrictions and extending personal liberty as widely as is compatible with safety and public comfort, has done much to render such methods of management rarely necessary."—*Journal Mental Science*, Vol. 35, p. 243.

Dr. POWELL, the well-known superintendent, in his report for 1888 on the use of gloves as a means of restraint in Nottingham Borough Asylum (England), says:

"The gloves were used in the case of a man who night after night destroyed every article of his clothing, bedding, etc. He continued to wear them for some time, but no sooner were they left off than he resumed his old habit, and, instead of restraining him again, I placed him to sleep in the observation dormitory, and instructed the attendant to prevent him from tearing his clothes.

"The result has been, to a considerable extent, satisfactory. The experience of this case has strengthened the view, which I held before, that where it is possible to keep patients from their mischievous habits by means of personal attention, it should be done by night as well as by day, because there is no doubt that to restrain mechanically has a degrading influence upon the patients, and also has a bad effect upon the attendants; it makes them less energetic and careful if they know that means other than their attention are readily applied to prevent patients doing mischief."—*Ib.*, Vol. 35, p. 432.

Dr. TATE, the well-known superintendent of the lunatic hospital at Nottingham, England, in his report for 1888, says:

"I have much pleasure in stating that another year has passed without either *restraint* or *seclusion* having been been found necessary. During my thirty years of superintendence I have endeavored to avoid the use of either, and with the exception of one instance of the latter, I have so far succeeded in doing so. I have been strongly tempted on several occasions to employ both, but by delaying the evil hour have been enabled to do without either. An occasion might, however, at any moment arise, when I should consider mechanical restraint of some sort not only necessary, but the wisest and most humane method of treatment."—*Ib.*, Vol. 35, p. 432.

Dr. G. A. TUCKER is the author of "Lunacy in Many Lands," and has visited more asylums for the insane than any other ten men in the world together. He has resided in Australia, but is now in London. He says:

"Mechanical restraint, according to Webster's English Dictionary, "Pertaining to, governed by, or in accordance with, mechanics, or the laws of motion; depending upon mechanism or machinery."

I can understand superintendents of very large and perhaps overcrowded asylums, where individual attention to the patients by the superintendent becomes laborious or impossible, with perhaps an insufficient number of attendants, adopting restraint as a means of security and relief from anxiety.

The same may apply to the superintendent who undertakes other duties than those appertaining to his office of medical superintendent, work that calls him away from his patients for a considerable portion of the day, and there are some whose time is greatly taken up with outside duties.

My opinions on this subject are strongly expressed in my book, "Lunacy in Many Lands," which please refer to.

"Pleasant surroundings, occupation, and adequate individual attention and treatment, are effective substitutes for restraint."

I found 219 asylums using restraint, and 118 asylums where no restraint is used.

"As a rule, where restraint is most used, it will be found that the management is the most defective."

G. A. TUCKER.

Dr. YELLOWLEES, who has been President of the British Medico Psychological Association, and perhaps the foremost of English alienists who seek to introduce mechanical restraint in British Asylums, defends the system. His reply is as follows:

ROYAL ASYLUM, GARTNAVEL, GLASGOW, Nov. 21, 1891.

CLARK BELL, ESQ., EDITOR OF THE *Medico-Legal Journal:*

Dear Sir:—I fully appreciate the compliment you pay me in desiring—through your letter to our mutual friend, Dr. Ireland—to know my views on non-restraint.

I have already given them so fully in our *Journal of Mental Science* for January, July, and October, 1889, that you must please forgive me if I refer you to these writings. The first is the fullest, but I content myself with a short quotation from the latest.

I also send you herewith the "deliberate opinion" of our Medico-Pychological Association on the subject. You will find it in paragraph 22 of the accompanying report, and we have few who differ from it.

"The question whether the use of restraint is ever beneficial, and therefore right, in the treatment of the insane, might surely in these days be considered on its own merits, and apart from traditional authority or personal bias. There is no other question of medical treatment about which physicians may not legitimately differ, and agree to differ; but let anyone dare to think or act independently as regards this particular treatment, let him dare say that restraint prescribed by a humane and experienced physician is totally different from the restraint inflicted by cruel or unenlightened men in bygone days, and he at once encounters reproach and blame, as if non-restraint were a rule revealed from heaven, whose universal obligation and absolute wisdom it was little less than sacrilege to question.

"Is not an asylum in its very nature a place of restraint as well as of treatment? Is not seclusion but a loose kind of personal restraint? Is it not interferenee with personal liberty to feed by the stomach-tube, and a yet greater interference to inject poisonous drugs into the tissues? Yet all this may be right and proper and praiseworthy; but if you dare under any conceivable circumstances to fasten the patient's hands, or to swathe him in blankets, you have committed an outrage on humanity, and deserve the direst censure.

"This *reductio ad absurdum* obviously needs some excuse, and when reason fails them, the extremists fall back on sentiment. They pose before the public as the special friends and protectors of the insane, declaim against backsliders, and prophesy the re-degradation of the insane and the return of all the horrors of the restraint; all because some physicians, who are as humane and benevolent as themselves, and their equals in skill and experience, decline to accept the rule of absolute non-restraint, and believe that in certain rare and exceptional cases restraint may be the best and the kindest treatment. The excuse is bad, and the sentiment mistaken.

The abuse of anything can never condemn its proper use, and the tacit assumption that the devotees of non-restraint are kinder, more humane, and more anxiously considerate of the welfare of the insane than their medical brethren is uncharitable and groundless."—Dr. Yellowlees, quoted from *Journal of Mental Science* for October, 1889, p. 478.

Yours very faithfully,

D. YELLOWLEES.

Dr. Yellowlees enclosed me a copy of a report of a select committee appointed by the British Medico-Psychological Association at the annual meeting of 1890 to formulate propositions as to the care and treatment of the insane, composed of Dr. Yellowlees, President, and Drs. Clouston, Ley, T. McDowall, Needham, Hayes, Newington, Rogers, Savage, Hack Tuke, Urquhart, Whitcombe, and Ernest White. The report contains thirty-two clauses or paragraphs of opinions, as formulated by that committee, the first nine of which are "Regarding Insanity Generally," the next eight (10 to 18), "Regarding Patients in Asylums," the next eight of which (18 to 25) are "Regarding Special Classes of Patients," and the last seven (No. 26 to 32, inclusive) are "Regarding Administrative Staff, &c., of Asylums."

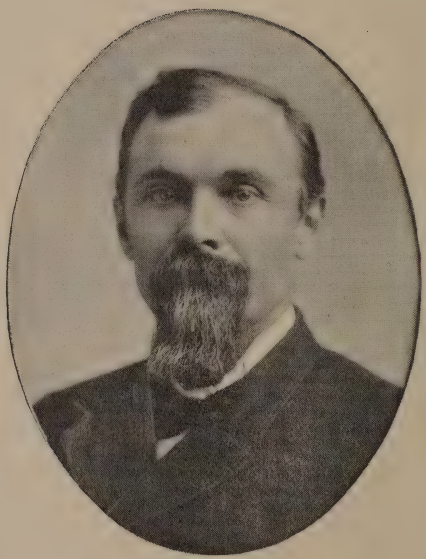
Paragraph 22 of this report, to which Dr. Yellowlees refers in his letter, is as follows:

"22. In exceptional cases, seclusion and restraint are needful and beneficial. They should be used without hesitation, but only as a means of treatment, and by medical order, and their use should be recorded with punctilious care."

I take occasion to cite paragraph 21 from the same report, as germane to the discussion, though not quoted by Dr. Yellowlees, which is as follows:

"21. Concerning dangerous and destructive cases, abundant exercise or occupation in the open air, an ample staff of attendants, attractive surroundings, and the wise use of baths and of calmative medicines, suffice for the care and treatment of many cases of this class, without any need for restraint or seclusion.

"The admission into county or borough asylums of prisoners who have become insane is much deprecated, since their influence is subversive of morality and discipline."



HON. WILLIAM A. JOHNSTON,
Associate Justice Supreme Court, Kansas.

PRESTON LODGE, PRESTONPASS, EAST LOTHIAN,
SCOTLAND, 9, 11, '91.

Dear Sir:—I have transmitted your letter, with the enclosures, to Dr. Yellowlees. In the *Journal of Mental Sciences* of January, 1889, p. 621, you will find not only his opinion on mechanical treatment, but those of some other physicians experienced in the treatment of insanity. My own views are given on page 625.

It seems to me that in some cases of extreme violence and restlessness mechanical restraint is more efficacious and less irritating than treatment exercised by the muscular resistance of attendants.

It has been abused in times past, but not more so than muscular force has been.

It has been well said that, in this country at least, the use of mechanical restraint is a measure of the conscientiousness of the Superintendent. A selfish, calculating superintendent would not use it at all. He would know that he was in danger of censure for so doing, and would prefer throwing the burden and danger upon the attendants and the patient.

From the debate reported, you will see that the superintendents at the meeting were unanimous in favor of mechanical restraint on some occasions, though they might differ as to the frequency of these occasions.

Hoping this may find you well, I remain—

Yours truly,

W. W. IRELAND.

TO CLARK BELL, ESQ.

The communication of Dr. Yellowlees brings to mind the exciting discussion in England regarding the subject of mechanical restraint as practiced at Bethlem Hospital.

This had originally been conducted in the lay press, as we recollect it, by writers in the London *Times* and elsewhere, prominent among whom was the celebrated Dr. John C. Bucknill, who had attacked an apparent return to the use of mechanical restraint in that hospital.

At the meeting of the British Medico-Psychological Association, Nov. 8, 1888, Dr. Clouston, the President, in the chair, in Edinburgh, Scotland, Dr. Yellowlees introduced the subject in an elaborate paper in defense of "one of the ablest and best-known of our asylum physicians, who has been arraigned for the undue use of restraint, and arraigned by one of the best-known and most distinguished psychologists in the country, joint author of the largest and best-known of all the

treatises on Psychological Medicine," as stated by Dr. Yellowlees in his paper, alluding to Dr. Savage on the one hand and Dr. John C. Bucknill, on the other.

Dr. Yellowlees has stated in his letter the summary of his views, but what he did say, as reported in the January number, 1889, of the *Journal of Mental Science*, pp. 621, *et seq.*, was then understood and probably intended, more from a feeling of loyalty, and as a defense of Dr. Savage, than a justification for any retrograde step in British asylums as to the use of mechanical restraint in such ways as it was then employed in so large a number of American asylums.

The language employed, however, was quite broad enough to encourage that large class of superintendents who resorted to mechanical restraints quite generally in their practice, and was a blow to the efforts of those who endeavored to eliminate acknowledged abuses, by its total abolition, as a choice of the lesser of two evils.

It was true that in England opprobrium attached to those known to use mechanical restraints, and Dr. Yellowlees remarks were a decided protest against such a fact, when its use could, in his opinion, be justified in the rare and extreme cases, which he designated as—

1. In cases where the suicidal impulse is intensely strong.
2. In cases of extreme and exceptional violence.
3. In extremely destructive cases.
4. The helpless and incessantly restless patients.

In the discussion that followed at that meeting there was no marked dissent, though many differed with Dr. Yellowlees, and Drs. Ireland, Robertson, Trumbull, Urquhart, Howden, Rorie, Rutherford, Watson, Johnstone, and the President, Dr. Clouston, participated.

It was a peculiar situation, and the assault upon Dr. Savage had been so severe and serious that, considering his

relation to the Society and its journal, marked dissent would have been regarded as almost a personal assault upon him.

Dr. Robertson voiced perhaps the correct sentiment in saying—

"That he was sure Dr. Savage had not used restraint unduly. He thought it hard that the man who was doing something to cure his patients should be abused, etc., and on this account he held Dr. Savage deserved the sympathy of the Association."

There was not one member who spoke against the use of restraint, of those present, on principle, and the discussion was in such form that it would have been a substantial censure of Dr. Savage to have done so.

The questions involved, were, however, higher than personal considerations, or the mere opinions of men, no matter how prominent.

The real issue was, underneath all, should English superintendents abandon the ground almost universally held for the past half century and resume restraint in practice in the individual discretion of superintendents who believe it easier to resort to it than to dispense with it.

The protest that attracted most notice was the vigorous one of the distinguished Dr. Alex Robertson, physician to the Royal Infirmary and City Parochial Asylum of Glasgow, Scotland, who published his views in the April number of the *Journal of Mental Science*, 1889. I give his letter as a part of the present discussion:

To the Editors of the Journal of Mental Science:

Gentlemen.—The Journal for January of the present year contains a report of an important discussion "On the Use of Restraint in the Care of the Insane" at the Edinburgh meeting of the Association in last November. As I was unable to be present, I ask you to be so good as to permit me to express my views through the medium of your columns on this very important subject. I learn from the report that it has been the occasion of a controversy in the *Times* between leading members of the profession in the south, but as I have not seen the articles on either side, my remarks can in no way be influenced by the opinions of any of the writers.

Many, like myself, will have learned with no small surprise that the use of mechanical personal restraint, to a somewhat considerable extent, is advocated by physicians in charge of leading asylums. Hitherto even intelligent laymen, when they have had occasion to refer to the evidences of progress in the nineteenth century, have in illustration pointed with pride to the non-restraint system of treatment in our asylums for the insane. Distinguished Continental and American physicians have studied it in operation in these institutions, and recorded their high appreciation of the results. Its beneficent influence has also extended to many of the asylums of other lands. While I write, the biennial report of the Alabama Insane Hospital has just been received. Dr. Bryce, the physician-superintendent, in referring to "the abolition of all mechanical restraint" some years ago, remarks: "Every year's experience since that notable event has impressed me more and more forcibly of its supreme wisdom and efficacy; our wards are as quiet under this system as those of any well-ordered private family." After many more remarks of a similar kind, he closes with a note of warning, "Let us see to it that we take no step backward."

Many of us can still recall the gratification felt on the presentation of of the bust of Conolly by the late Baron Mundy, M. D., to the Association, and afterwards through its representatives to the Royal College of Physicians of London. That eminent physician, in his eulogy of Conolly on the occasion of its formal acceptance by the College, said, addressing the chair, "You have been enjoying for almost a quarter of a century the work of the great man who is no more, and still your neighbors, close to your shores, have yet, at the moment I address you, two thousand unfortunate beings tied in strait jackets . . . and the total number of insane on the Continent confined in cells, fastened in beds, and strapped up in strait jackets amounted in 1867 to fifty thousand. It is for me as a foreigner a humiliation, and perhaps at the same time a proof of my professional courage that I denounce these facts before so high an authority as yourself, and on so solemn an occasion as this of to-day." The President of the College, the late Sir Thomas Watson, in the course of his reply, remarked: "His (Conolly's) name will go down to a remote posterity, and be reckoned among those of the greatest and most noble benefactors to a very suffering portion of the human race that our profession and our country have ever produced." Little did either of these eminent men then think that within twenty years of the time they spoke, physicians of eminence at the head of some of our chief asylums would have advocated a return to the use of measures of restraint whose all but total abolition was the special glory of Tuke at York, and Conolly at Hanwell, and reflected honor on the land of their birth.

[TO BE CONTINUED.]

Marion-Sims College of Medicine, St. Louis,
Chair of Neurology and Psychiatry.

My Dear Clark Bell:

I should have answered your request for my views on the question of restraint, but for want of time and pressure of business.

The subject, however, has been discussed so often and so thoroughly by the most eminent and experienced alienists of the world, *pro* and *con*, that it is now almost threadbare.

Compared with the restraint system that prevailed before Pinel unshackled the lunatics and took them out of the dungeon cells of Bicetre, and Tuke and Chiarugi inaugurated the reform of the present century in England and Italy respectively, non-restraint has become the rule and prevalent idea in the management of the insane ; that is, the abolition of all needless mechanical restraint, all restraints hitherto resorted to for other than purely medical or therapeutical reasons, such as the quiet of the asylum, the comfort or convenience of the officers, attendants, etc. And restraint is now never employed for purposes of punishment or coersion in any well-regulated medically-governed modern institution for the care or treatment of the insane.

The question of restraint or non-restraint has been narrowed down to one of prescription for the psychical or physical welfare of the patient exclusively, and like any other prescription, the dosage of the remedy and the duration of its employment must depend on the absolute needs of the patient and judgment and skill of his physician, and like the tendency of the times in medical circles in regard to the use of medicine generally, the least amount of the remedy that will subserve the welfare of the patient meets with most favor among the most enlightened and advanced alienists.

Non-restraint, as I understand it, is a relative, not an absolute term, and restraint, either mechanical or physical, when employed, should be of the least irritating kind to the patient, and least barbarous, coercive, or violent in appearance, and only as a medical prescription.

Psychical tranquilization, psychical diversion or suppresion, are the objects in view in the successful management of the insane, and psychical satisfaction to the patient, so far as this may be accomplised without encouraging or fostering delusion or morbid impulse. The patient should be adroitly led, rather than forcibly coerced, in the direction of normal mental activity. An inherent dread of coercion and servitude exists in the minds of most persons, and this dread does not generally abandon the insane mind. Some lunatics are totally indifferent to the restraint which they need to guard them from filthy practice or dangerous impulses, as certain epileptics, imbeciles, and dements, and some should have restraint, especially at certain periods, as the homicidal, suicidal, etc., but not constantly, nor so much as has hitherto been thought a necessity of treatment. The general sentiment and practice of alienists is in the right direction, and I think the skilled judgment of the experienced psychiatrist may be trusted to indicate its proper use in those exceptional instances where it is imperatively required, and to decide upon the propriety or preference of mechanical, physical, or chemical restraint, or of seclusion solitary or of semi-solitary, or diverting exercise, such as a long walk, a physicially

fatiguing game or exercise of any kind, or labor, watched over by surveillance of experienced attendants.

Thus, you see, in the light of my own experience, the testimony of others, and all of the past and recent exhaustive discussions of this subject, I regard the subject as a medical question of suitable prescription in special instances, and not as a rigid rule of practice, to be undeviatingly conformed to, and I prefer the non-restraint plan generally to restraint generally. I never would entrust the deciding of the question of restraint or non-restraint to the judgment of any one but the physician.

Yours truly, C. H. HUGHES.

Dr. Lyon, of Bloomingdale Asylum, one of our oldest hospitals in the city of New York, replied as follows:

Bloomingdale Asylum, Boulevard and 117th Street,
New York, November 12, 1891.

Clark Bell, Esq., President Medico-Legal Society, Buckingham Hotel, New York City.

My Dear Sir:—This morning's mail brings me your printed slip on Mechanical Restraint, and your invitation to last evening's discussion of the subject.

I am fully convinced that mechanical restraint has as legitimate a place in the treatment of high excitement and exhausting mania as has any sedative medicine, properly administered, and I am satisfied that lives may occasionally be saved by husbanding the failing strength of intensely excited patients by mechanical appliances, which do not provoke the same combative resistance as manual restraint often does. The value of some form of mechanical restraint in the surgical cases which sometimes occur among very disturbed patients cannot be questioned.

I also believe that the principal is generally recognized that mechanical restraint should not be used simply to save the time and labor of the attendants, who should be constantly with, and as carefully attentive to, the patient restrained as though he were free, nor in any case should its use with a patient become habitual, but it should always be a matter of daily and hourly prescription by the physician in charge.

I may add that with between four hundred and fifty and five hundred patients a year under the care of this Institution, many of whom are in the most active stage of their disease, it is rarely found necessary to mechanically restrain anyone, but when the necessity arises, there is as little hesitation in using this remedial means as any other.

Yours very truly,

SAMUEL B. LYON,
Medical Superintendent.

Dr. Steeves, who is at the head of the Provincial Asylum, at St. Johns, New Brunswick, with a large experience, and a member of the Medico-Legal Society, in response to my inquiries, responded as follows:

PROVINCIAL LUNATIC ASYLUM, St. John, New Brunswick,
10th Nov., 1891.

DEAR MR. BELL:

I regret that by a misadventure your letter of the 31st ultimo was mislaid, and not answered early as its import and the circumstances demanded.

I read your remarks carefully and thoughtfully, and Dr. Theodore Diller's paper on Mechanical Restraint of the Insane with the same care. I was about to say that I had tried absolute non-restraint, but I confess I have not, and I might add that the confession does not cost me much blushing; nor do I suppose anyone has ever had the temerity to undertake so herculean and impossible a task as to manage exceptional cases of insanity by means that would admit of the term "entire non-restraint."

You ask this apparently pertinent question: "Should not the fact that such Superintendents," as several more or less distinguished gentlemen whom you name, "who have for years been able to carry on their work without resorting to mechanical restraint, be quite conclusive that it was not indispensably necessary? "Not indispensably necessary." I make bold to say that these words, in the connection in which they are used, are far from being ingenuous. When you are summoned to dinner, and take your seat by the well-furnished board, and perchance said a word of grace, you will see before you some things that are "not indispensably necessary," but which add greatly to your comfort, your health, and your well-being. Indeed, examples of this sort could be furnished without number. But if you ask me if these gentlemen whom you name prefer manual and chemical restraint to mechanical restraint, is it not conclusive that mechanical restraint should be abolished? Then I would reply simply that it is not conclusive by any manner of means.

Your second question is child-like, and man-like as well. "And should not those who have the insane in charge feel a common interest in reducing *this system of restraint to* its minimum, and correct acknowledged abuses." I go hand in hand with you in this crusade, and I will go further, for I will include with "this system of restraint"—meaning mechanical restraint, that of the non-restraint apostles, viz: that system of manual and chemical restraint practiced by them. I would say let us have no more rib breaking nor morphia stupor.

Referring to Dr. Diller's paper, I have to say that, excepting a few words, which I will presently name, I heartily endorse his views. And this endorsation is not from any superficial view, or partial study, or short experience. For this question has been to me an everyday burning one for upwards of sixteen years, and to whatever conclusions other gentlemen may have arrived, even after having brought to bear on the subject much intelligence, time, and experience, my opinions are so firmly based that they are not likely to be moved thereby.

If the arraying of distinguished names could be conclusive in settling the question of restraint or non-restraint, manual or mechanical, both sides would claim the victory.

The exception referred to in Dr. Diller's paper is this, that while I hold strong views against the prohibition of restraint in the care and management of the insane, qualify it by what adjective you will, and while I

believe the proposition bears absurdity upon the face of it, I am unwilling to impute motives, or cast reflections on others who from some cause hold opinions opposed to mine. Even in the case of a bonfire one could afford to look on without perturbation.

Faithfully yours,

J. T. STEEVES.

Dr. L. H. PRINCE, whom I had understood used restraint in his Hospital at Batavia, Illinois, responded as follows:

BATAVIA, ILL., Nov. 2, 1891.

CLARK BELL, ESQ., President Medico-Legal Society, New York.

My Dear Sir:—In reply to your circular letter of Oct. 31st, asking for an expression of my views on the subject of the use of mechanical restraint, I would respectfully offer the following:

I am a firm believer in the efficacy of a judicious and proper use of chemical, manual, and mechanical restraint in the treatment of insanity. Each has its special uses, and, in my judgment, no one of them can be entirely dispensed with properly in any hospital for the insane. There is no doubt that the use of mechanical restraint has been abused in many instances. Is this a sufficient reason for its abolition? Then for the same reason should be abolished the use of chemical and manual restraint. Cases (especially of acute agitative melancholia) have come under my observation where it has been deemed necessary, principally on account of the exhausted condition of the patient, that rest in the recumbent position be maintained. Holding the patient in bed by attendants (manual restraint), in nearly every case resulted in increasing the excitement and consequent exhaustion. In most of these cases, after the failure of this form of restraint, the patients were kept on the bed in a horizontal position by the use of mechanical appliances humanely applied, with the most satisfactory results. Can it be said by the advocates of non-restraint that none of their patients could possibly have been benefitted, or at any time made more comfortable, by the judicious use of mechanical restraint? Can it be positively asserted that no patient ever died for the want of it? Very many cases might be cited where the occasional judicious use of mechanical restraint might be of benefit to the patient. If patients can, beyond all possibility of doubt, be benefitted by the use of the muffs, self-mutilators, for example, who resent being held by others, must they be deprived of this means of treatment because of a principle involved? And what, pray, must we do with a patient who asks for this means of restraint?

Will the advocates of non-mechanical restraint tell us how they manage such cases as require some form of restraint, and all Superintendant's meet with these occasionally, where chemical restraint is insufficient or dangerous, and where manual restraint is harmful, by adding to the patient's excitement? How do they prevent injury to the violent patient who is held for hours by several strong attendants? Can they vouch for the gentleness of such attendants in all cases? Do they not meet with patients who resent being watched and followed, and finally overcome and pinned down by superior force?

A layman visiting the asylum wards is shocked at seeing a patient restrained by mitts or camisole. We are sorry for him, but as it is our duty to do our best for the patients, we cannot conscientiously deprive him of this means of treatment for the visitor's sake.

It is worthy of note that very many of the non-restraint advocates are non-medical men, and have never had experience in the treatment or management of the insane. If a physician cannot be trusted with appliances for mechanical restraint, how can he be trusted with the application of chemical or manual restraint? I am heartily in *favor* of minimizing all forms of restraint, and of perfecting the methods we have, trusting to the humanity and ability of the physician to judge of the necessities of each case. I am decidedly *opposed* to any rule or law that takes out of the hands of the physician that which may be of benefit to his patients. Absolute non-restraint in the hospital care of the insane does not exist. The report that "no restraint whatever has been used" is misleading and unscientific. If there is a sure way of treating our patients, *with advantage to them*, without the occasional use of mechanical appliances, we should be happy to learn of it. The majority of hospital physicians, having the interests and comfort of their patients at heart, have not yet learned to dispense entirely with its use.

The proper use of restraint of all kinds is what we should aim at, not its total abolition.

Faithfully yours,

L. H. PRINCE.

Being anxious to have the views of Dr. Prince upon what seemed to me to be the more important and practical questions involved in the controversy, I addressed him the following letter:

No. 57 Broadway, NEW YORK, Nov. 7, 1891.

DR. L H. PRINCE, Resident Physician Bellvue Place, Batavia, Ill.

My Dear Sir:—Many thanks for yours of the 2d instant just received.

I am greatly interested in your views. Your criticism as to the views of laymen, was preconceived by me and influenced my action in calling now so largely not only upon medical men, but upon those who had experience in the care of the insane in hospitals. The Earl of SHAFTESBURY, for half a century the Chairman of the English Lunacy Board, was a layman, and yet, perhaps, no man, not even CONOLLY, was so largely influential in abolishing the chains, manacles, and other forms of mechanical restraint in British asylums than was he, and I believe that no prominent alienist in Great Britain could now be found, who would regard his experience and judgment as at all inferior to any asylum physician upon this question.

I should be glad to have you give me your views as to the following propositions:

1. If such men as Dr. WM. ORANGE, as superintendent of Broadmoor, the great asylum for the insane called criminals in England; Dr. P. BRYCE, at the head of the State Hospital at Tuscaloosa, Alabama; Dr. ALICE BENNET, Superintendent of the largest State Hospital for women in the world, at

Norristown, Pa.; Dr. P. M. Wise, now at the head of the State Hospital for insane at Ogdensburgh, N. Y., for many at the largest hospital for the chronic insane, at Willard, N. Y.; his successor, Dr. Chas. W. Pilgrim, at the same institution; Dr. Wm. B. Fletcher, of the greatest asylum in Indiana, should unite in saying that they had not found it necessary during the years preceeding the statement to resort to mechanical restraint in the care and treatment of the insane by them in their hospitals, would not that bring you to the belief that it could be actually abolished, if superintendents were selected who had the faculty (if I may use that term) of successfully managing their insane patient without it?

2. Suppose Dr. Pilgrim, at the head of the great asylum at Willard, should say: "It is my belief, however, that the use of mechanical restraint is almost never necessary. At least such is my experience with a population of nearly twenty-one hundred cases, many of whom are acute. I have had several years' experience with both symptoms and I, have no hesitancy in saying that in my judgment an institution can be much more successfully managed without mechanical restraint than it can be with it."

Suppose that Dr. Wm. B. Fletcher should say: "In eight years constant association with the insane in a hospital with sixteen hundred patients half that time and in private practice with *only acute* insanity the other half, I have seen no case where I believe mechanical restraint necessary for the safety of the patient or advisable for treatment."

Suppose that Dr. Magnan, of St. Anne at Paris, should say, that in all his long experience in the care and treatment of the insane, he had never yet met a case where mechanical restraint was necessary.

If Dr. Henry Maudsley should say that he had never used a camisole in his life;

And scores of superintendents, who devote their lives to this humane work, should all unite in saying that mechanical restraint was in their opinion not necessary to be resorted to in the care of the insane;

Would not these considerations move you to make a serious effort on your own part to endeavor to dispense with it, and would not the fact that these men had succeeded in their trusts without it encourage you to hope that you might be able to successfully imitate them?

3. Is there no force in the statement made by superintendents that the excitement, tumult, and explosions incident to the use of mechanical restraint retard and interfere with recoveries, and are attended with serious danger of aggravating the mental disorder of the patient?

And would you not hail with delight any plan by which mechanical restraint could be eliminated from hospital treatment, provided in your opinion, its banishment would not injure the insane themselves?

Your views on this question, in addition to those I have received, would be of great interest to me in this important discussion.

Very faithfully yours, CLARK BELL.

In answer to my letter, Dr. Prince replied as follows:

Batavia, Ill., Nov. 13, 1891.

Clark Bell, Esq., 57 Broadway, New York.

My Dear Sir:—Your letter of Nov. 7th was duly received, and would

have been answered sooner, had not very serious illness in my family prevented.

In regard to the several propositions laid down by you I would say:

1. I have the greatest respect for the doctors mentioned, and will not deny that they did not find it *necessary*, for a certain period, to resort to the use of mechanical restraint in the care and treatment of their patients. This does not necessarily prove, however, that not a single patient under their care, who was restrained by manual force, might not have been better off, or made more comfortable, had mechanical restraint been used, it not having been tried in any of their cases; nor does it prove that hospitals managed by physicians who believe in the judicious use of mechanical restraint are not just as ably managed, nor that their patients are not just as well cared for. There is sometimes a distinction between what is thought *necessary* for successful management and what is *best for the patient* in each case.

2. I heartily concur with Dr. Pilgrim when he says that "*the use of mechanical restraint is almost never necessary,*" which is equivalent to saying that mechanical restraint is *sometimes* necessary. How can he reconcile this first statement with the one that "an institution can be much more successfully managed without mechanical restraint than it can be with it"? This, it seems to me, is somewhat contradictory.

Where a superintendent entirely throws aside a certain method of treatment, and positively prohibits its future use, it would be very hard for him to make up his mind that in a very few cases that particular method might possibly have been a little better than the one adopted.

Dr Magnan, no doubt, was sincere in saying that in his long experience he had never met a case where mechanical restraint was necessary. He is indeed fortunate if in his experience he is sure he has never had a case that could not have been improved or made more comfortable by the use at times of mechanical restraint.

Dr. Maudsley surely could not have learned by personal experience that the use of the camisole was improper in every case, if he never used one.

I never resort to the use of mechanical restraint except in a few cases where I feel convinced that nothing else is quite so good. I know from personal experience that a few cases, at least, have been benefitted greatly, and possibly some lives saved, by substituting mechanical for manual restraint, and I have no reason to believe that such cases may not again occur in my practice. With this knowledge would I be justified in throwing away or burning up all of the hospital restraining apparatus and ever after refusing to use it?

It may be that in a year's time and amongst a large number of patients the use of mechanical restraint might be indicated in but a single case. Yet, in that single case, I would dislike very much being prevented by law or by a hospital rule from using that method of treatment that would seem to me to be best for the patient.

3. It is certainly true that there is danger, in many cases, of mechanical restraint doing harm; the same danger is to be considered in the use of any form of restraint. This is no reason why it should be entirely discarded. Harm may result from the improper and injudicious use of many of the

remedial measures a physician may use. We hear very little, however, about taking from the physician the right to use for his patient such remedies as opium, alcohol, &c.

I would most certainly hail with delight any means or plan that would eliminate from hospital treatment the *necessity* not only for mechanical restraint, but chemical and manual restraint as well, provided, however, that in banishing any one of them something better could be provided.

If I knew positively that in the next twenty years I was to have but one patient who in my opinion could be benefitted more by the use of a camisole or of bed straps than in any other way, I should like to have these appliances always on hand for that patient.

You ask me if I might not be moved to make a serious effort to endeavor to dispense with mechanical restraint. I would say that in each case where mechanical restraint has finally been resorted to by me all other means *have* been first tried. In nearly every case where restraint has been indicated, I have personally conducted and assisted in the use of manual restraint, and the use of mechanical appliances has only been resorted to after the failure of the other means. In the majority of cases where mechanical restraint has finally been resorted to as being the best thing for the patient, it has proved its usefulness. We certainly have no other object in view than the good of our patients when we use mechanical restraint, *after trying in each case all other means.* Manual restraint has sometimes failed of its object in my hands. Is it possible that those who report never finding it necessary to use mechanical restraint have never experienced defeat in the treatment by other means? Unless each case has been made comfortable, and no evil has ever come of depending upon manual restraint, in their hands, how can the statement that mechanical restraint was never indicated hold good, when it was not even tried in a single instance?

I repeat that without any doubt I have in a number of instances succeeded with mechanical restraint, after faithfully trying and failing with other forms.

It is now several months since mechanical restraint has been used by me. The patient was an old lady, reduced almost to a skeleton. Her case was one of agitative melancholia; there was constant restlessness, the patient never stopping her rapid walk to and fro, crying and moaning, striking her head against the door and walls, *fearful of being touched by any one.* There was persistent refusal of nourishment. Manual restraint was tried for a time. The patient was made worse by it, and we finally gave it up for the following reasons: When held in any way by one or more attendants, the patient would become frantic, screaming and resisting without rest. Her flesh bruised very easily, and very little pressure was required to darkly color the skin. Manual restraint was persisted in, every conceivable form of it being tried, but the patient grew more excitable under it. Finally a folded sheet was passed about the body, and the ends fastened with safety pins under the bed in such manner as to prevent the patient from rolling out of bed or assuming the sitting posture. The ankles, after being well padded, were fastened, by means of leather anklets and a roller bandage, in such a way as to permit of limited movement of the legs. The arms were

David A. Depew

controlled in the same way. The mattress was large enough so as to project over the sides of the bed, the center being a little lower than the sides. The patient was thus completely protected from danger of bruising. The room was darkened, the patient given nourishment often without great trouble, and the body was frequently bathed with alcohol. It was not long before the patient's excitement began to subside, and she finally made a good recovery. I feel confident that had not mechanical restraint been used, the patient would have died of exhaustion. The record for non-mechanical restraint would possibly have been better, but how about the probable final result? This is no fancy case. It is only one of several similar experiences I have had in this particular class of cases. Would you, my dear sir, advise me to refrain in the future from the treatment described above, the conditions being the same?

I could cite cases differing in form of insanity, where I have felt convinced, after trying all other means known to me, that to deprive the patient of temporary restraint by muffs, or camisole, would be nothing short of inhumanity. It grieves me that able men condemn a method because it has been abused, and assert that the adherence by a physician to the method condemned is a proof of his incapacity.

Very sincerely yours,

L. H. PRINCE.

Dr. G. R. TROWBRIDGE, Assistant Physician at the State Hospital for Insane, at Danville, Pa., so long presided over by Dr. Schultz, a member of this Society, whom I addressed, and who had published a monograph favoring restraint, replied as follows:

THE STATE HOSPITAL FOR THE INSANE,
Danville, Pa., Nov. 6, 1891.

PRESIDENT OF THE MEDICO-LEGAL SOCIETY:

Dear Sir:—Many thanks for your kind invitation to express my views on the subject of "Mechanical Restraint Among the Insane."

The two sides of this question may be looked upon with approval or disapproval, and certainly present ample scope for an extended argument. The idea of a mechanical restraint might, to some unacquainted with the needs of the case, seem a rather barbarous custom, but how those connected with institutions for the care and treatment of the insane can advocate an absolute non-restraint is beyond my imagination, and I am inclined to consider the idea is advanced more in the spirit of the politician than in that of the true alienist.

The point of the matter is right here. As long as insanity assumes the violent forms it does in so many of our cases, just so long will it be necessary to employ some form of restraint, and the question arises, "Shall it be mechanical, manual, or chemical?"

The insane asylum is in itself a form of restraint; its inmates are a class of irresponsible beings, often controlled by strange delusions, which in turn give rise to violent and dangerous acts, and, consequently, society demands,

for their own and the good of the individual, that the insane should be kept under restraint.

That there is often necessity for an additional restraint among these people, I am fully convinced, and, as I have said, the question arises, "What shall we use?" For my own part, I am heartily in favor of "mechanical restraint," carefully and judiciously employed, and I do not think we have reached a time when it can be totally discarded.

I grant that there is abuse of "mechanical restraint" in many of our institutions, but in these cases it is not the fault of the restraint, but of a careless medical officer.

We all know that some hospitals claim an "absolute non-restraint" system. Is this strictly speaking the truth, or do they retire safely behind a bottle of morphine or hyoscine and a hypodermic syringe, and from its friendly protection make their stand for the abolition of mechanical restraint? I know such to be the case in one of our so-called non-restraint concerns, and I am inclined to think it is the case in a large number of them. The substitutes for mechanical restraint are manual or chemical, and I fail to see where the advance has been made. I cannot imagine anything more harmful and annoying to patients than to be continually poking a hypodermic syringe into them for the purpose of restraining them. This instrument has its place in the hands of a conscientious alienist, but I am of the opinion that in our institutions, where there is a system of non-restraint, the hypodermic syringe should be taken from the hands of the medical officers, for in these cases its authorized use leads to its abuse.

As for manual restraint, is it any better than chemical? I cannot imagine anything more disgusting than to have three or four, or even a half-dozen, attendants hanging to an excited patient with the idea of controlling him. It is exasperating to the patient and attendants, and in the majority of cases will result in injury to one or the other. I have tried it, and have laid it aside as an exploded idea.

I have had cases under my charge which I know have been greatly aided in their recovery by the use of a careful restraint, and as long as I can see good results arise from its use, I shall decline most emphatically to vote it a relic of barbarism.

As medical officers in State hospitals for the insane, we are bound to care for these unfortunates in the safest manner, and if, through the desire of making a record of a non-restraint, we should allow a patient to take his life, the one having such a catastrophe should be made a subject for justice to deal with.

One more thing before I close. I should like to inquire from these alleged and self-constituted "reformers" how they *do* manage certain cases which all hospitals for the insane contain, if they do not use some form of restraint?

Let us consider the matter of mechanical restraint carefully before we discard it.

Yours very truly,

G. R. TROWBRIDGE.

I also send you a reprint of an article I wrote on this subject some time ago. G. R. T.

The monograph of Dr. Trowbridge is interesting, but too lengthy for this discussion. I make, however, a few extracts from it, which are of importance, in my opinion.

The monograph was read before the Montour County Medical Society, of Pennsylvania, and published in the Buffalo *Medical and Surgical Journal* March, 1891.

Dr. Trowbridge gives the following definition of "Restraint," not using the term "Mechanical Restraint:"

By the word "restraint," as it is used by the alienist of to-day, I understand *the depriving of voluntary action of an individual, either for his own or the safety of others, or for his mental, moral, and physical good, the individual being irresponsible for his conduct.*

Dr. Trowbridge quotes Hon. William P. Letchworth, in his work, "Insane in Foreign Countries," as to the methods employed in some foreign asylums half a century ago. I quote the statements:

The methods of restraint in common use included iron hand-cuffs connected with chains to a leather waist-belt; leathern hobbles locked around the ankles, which permitted the patient to shuffle his feet, but impeded his movements so that he could not walk; iron hand-cuffs with chains, which passed through fastening locks at the sides of heavy "tub bedsteads," filled with straw, boots made of ticking, with rings and chains which passed through fastening locks at the bottom of the bedsteads.

I further quote, from the same monograph, Mr. Letchworth's report as to Gheel, in Belgium:

At Gheel, Dr. Peteers has the following methods: (1.) A broad padded belt or band, five inches wide, for locking around the upper part of the arms. In this belt is an iron loop, through which passes a strap for securing the patient to the side of the bed. (2.) Two padded leather bands, three inches broad, connected in the center by a link two inches long. These are designed for the ankles of the patient. To each is attached a loop of iron, through which a strap is passed and fastened to either side of the bedstead. (3.) Two padded soft leather wristbands, three inches wide, separating the wrists about eight inches. Dr. Peteers said these were scarcely ever used. (4.) A broad leather belt encircling the body, with two leather pockets in front for the hands, which are secured in their position by wristlet straps. Extending from this belt across the shoulders, suspender fashion, are straps which retain in position and relieve the weight of the belt, which locks at the back.

Dr. Trowbridge quotes the views of Dr. Daniel Nicholson, a member of the Medico-Legal Society, and now superin-

tendent at Broadmoor, as published in *Journal of Mental Science*, July, 1890, as follows:

Dr. Nicholson,* of the Broadmoor Criminal Asylum, England, says:

The question as to the employment in lunatic asylums of what is known as "mechanical restraint," occupied a considerable amount of public attention last year. The legitimate or justifiable use of mechanical restraint is one thing, the authorized abuse of it another. The sanction of modern times in this country is clearly against the use of mechanical restraint; and very properly so in recollection of the extent to which it was carried in days gone by. The existing practice is, as a matter of fact, in accordance with this sanction; and the exceptions when this form of restraint is used for other than surgical reasons, are sufficiently few to afford the best proof of the rule. Besides sanction and practice, an element of sentiment has crept into the matter which would fain make it of the nature of a crime to use mechanical restraint at all, unless, perhaps, in surgical cases.

Mechanical restraint is practically unknown at Broadmoor. It was, I believe, used on a few occasions in the early days, but for over twenty years it has been found possible to do without it. The comparatively numerous staff of attendants at this asylum enables exceptional strength to be brought to bear when occasion requires it; but my own feeling in the matter is that in a case of continuous and long-sustained maniacal violence, with an activity avowedly and determinedly homicidal, it is possible to carry the non-restraint principle (so-called) too far and at too great a cost. Few people who are not engaged in it are able to estimate the wear and tear of nerve and heart which a tussle with a desperate lunatic of this sort means to the attendants, apart from the risk of positive injury either to the patients or warders. And when this struggle has not only to be anticipated, but to be engaged in, several times a day for a lengthened period, the justifiability and humanity of simple, effective and safe mechanical restraint become apparent.

If ever it should be my lot to be a lunatic, such as the one whose treatment is here in question, I hope my good friend, the Superintendent, who has me in charge, will not be too squeamish about recent traditional usage, but will see that I am checked by the minimum but necessary amount of restraint to insure my own safety and that of others. On the one hand, I do not wish to think that under any circumstances I should be the means of inflicting injury upon my attendants; on the other hand, I would infinitely prefer mechanical restraint to the long continued manipulations, however skilful and friendly, of four or more attendants heaped upon my prostrate form. . . . . The evil to be feared with regard to mechanical restraint is lest its legitimate use should lead to its authorized abuse. This could never happen if, in every case, the physicians themselves were to order it to be used, and that only after a careful and complete personal

Journal of Mental Science, July, 1890.

investigation. When the restraint is applied by underlings and its use afterward sanctioned by the responsible officers, we have the authorized abuse which is altogether wrong and reprehensible.

And Dr. Trowbridge closes his paper by the following statement:

In the report of the Committee on Lunacy in this State (Pa.) for 1889, the Secretary mentions the fact that there had been "no mechanical restraint" used in the female department of the Norristown State Hospital for the Insane for "the past year," commends the fact, and asks "Why not the same in other hospitals?"

This inquiry is certainly a very strange one. Lunatics differ as well as sane people, and have to be treated accordingly. The female department of Norristown is to be congratulated on having such an easy class of the insane to deal with.

This matter of "mechanical restraint" should be carefully considered before it is voted a relic of barbarism.

The following reply was received from W. THORNTON PARKER, M. D., one of the Medical Examiners of Rhode Island:

MANCHESTER-BY-THE-SEA, MASS., Nov. 3, '91.

DEAR CLARK BELL:

Your favor is received. I have read Dr. Diller's paper with great interest, and it seems to me very fairly stated, but the subject cannot be discussed so hurriedly. Too much is at stake. Your work is of the greatest importance, and the wisdom of your great Society will, even when united, find the "art long, and the time fleeting." Without cant, *much* of successful government *can* be carried on with *kindness*. I have had considerable experience myself, and I am fully convinced of this, even in the care of homicidal and suicidal cases. To take the opposite position is to encourage all that is brutal in our attendants, and human nature is at best "of the earth, earthy." We aim at the accomplishment of the divine command, "Be *merciful*," and it is not wise or brave to say "*we cannot.*" As I said before, you are engaged in a great work, and you must not come down. It will not be settled in the near future, but you know great progress *has been* made already, and *is* being made, and more can be made. I am deeply interested. There is plenty of cowardly bullying among Superintendents, assistants, and nurses. It differs in its degree, and in its methods, but the *evil*, the *sore*, is still there, still festering, still unhealed. Manliness, love of fair play, divine love, which is the essence of *true* manhood, steps forward between prisoner and gaoler, and says to-day, "*Thus* far, but *no* farther."

Faithfully yours,

W. THORNTON PARKER.

Dr. HENRY M. HURD was for eleven years Superintendent of the Eastern Michigan Asylum, at Pontiac, Mich. Two years since he became Superintendent of the Johns Hopkins Hospital, and Professor of Psychiatry, at the Johns Hopkins University.

I give his reply:

THE JOHNS HOPKINS HOSPITAL, Baltimore, Dec. 1, 1891.

TO THE EDITOR OF THE MEDICO-LEGAL JOURNAL:

Dear Sir:—The value of the principle of non-restraint is too obvious to require any argument. Mechanical restraint never has been resorted to in any asylum without sooner or later begetting an abuse of it. Patients are more comfortable without restraint, and get well more rapidly when it is not resorted to, either as a rule or an occasional practice. The relations between patients and attendants, and between patients and medical officers, are more harmonious when non-restraint is the rule. I can readily imagine a case which might be more conveniently cared for by using restraining apparatus, but I do not regard such mechanical restraint as absolutely essential to proper care, nor as helpful even to such a case in the long-run.

In matters of asylum policy, however, the largest liberty should be accorded to every officer. He who believes in non-restraint should not have his motives or his practice impugned; nor, on the other hand, should the believer in "judicious restraint" be placed beyond the pale of charity. I have tried both, and I believe non-restraint to be preferable.

Very respectfully,

HENRY M. HURD.

57 Broadway, New York City.

Dr. MONCURE has been for some years at the head of the Eastern Lunatic Asylum of Virginia, at Williamsburgh. He is a member of the Medico-Legal Society, and a careful student of Mental Medicine. His letter is as follows:

EASTERN LUNATIC ASYLUM, Williamsburg, Va., Nov. 11, 1891.

Dear Sir:—I have read the article written by Dr. Theodore Diller dated Sept. 28, 1891, and though an advocate for non-restraint as the guiding rule in insane asylums, I must say that I cordially agree with him. There are cases where judicious restraint inflicts less injury and is far more humane than either chemical or manual restraint. I have only had three cases under restraint for the last six years, with an average of more than four hundred patients. These are put under restraint only to prevent injury to themselves, which is sure to result from any other kind of

treatment. I think that the less mechanical restraint, except in these rare cases, the better for the patient.

Respectfully,

JAS. D. MONCURE,
Sup't E. D. Asylum.

Dr. WILLIAM ORANGE, for years Superintendent of the great English asylum for insane called criminals, at Broadmoor, England, and who, since his retirement from that position, has been one of the alienists selected by the Crown to decide on the insanity of homicides, and an active member of the Medico-Legal Society, sends the following promise of a more extended letter upon this subject:

12 LEXHAM GARDENS, W. LONDON, October 28, 1891.

DEAR MR. BELL:

I write a line to say that I am away from London for a few days, but I shall be at home again by the end of the week, when I will write to you again upon the subject of your letter, and the enclosure of Dr. Diller.

The statement with which Dr. Diller commences his article—to the effect that persons who advocate non-restraint do so because it is *politic*, rather than because it is *right* so to do—would not, I fear, apply to England, just at present. On the contrary, the *politic* thing, just now, in England, is to defend the use of mechanical restraint. It almost looks as if the tendency of the pendulum to swing from one extreme to another were the fundamental principle of human action.

I dare say you may have seen the report of a discussion by the English Medico-Psychiatry Association in November, 1888, reported in the *Journal of Mental Science* for January, 1889.

Hoping to write to you again at the end of the week, believe me,

Yours very truly,

W. ORANGE.

CLARK BELL, ESQ., 57 Broadway, New York.

From the foregoing replies, it seemed that the question should be regarded and discussed from a more practical standpoint, and I addressed the following letter to other Superintendents, from some of whom I received responses:

OFFICE OF THE PRESIDENT OF THE MEDICO-LEGAL SOCIETY,
No. 57 Broadway, New York, December, 1891.

Dear Sir:—The enclosed paper of Dr. Diller was read at the November meeting of the Society, and replies from Drs. P. Bryce, P. M. Wise, Henry Maudsley, of London, D. Hack Tuke, Charles W. Pilgrim, G. Alder Blumer, Carlos F. MacDonald, John B. Chapin, W. W. Godding, W. B.

Fletcher, L. A. Tourtellot, G. R. Trowbridge, James Olmstead, H. P. Stearns, of Connecticut, Gershom H. Hill, of Iowa, Richard Dewey, of Kankakee, Selden H. Talcott, of New York, and many were received from others, including Prince, of Batavia, Ill.; Curwen, of Pennsylvania; Wallace, of Texas; Parsons, of New York; Parker, of Rhode Island; Burr, of Pontiac, Mich.; Steeves, of New Brunswick; Moncure, of West Virginia; Hughes, of St. Louis, and many others.

I was instructed by the Society to publish these replies in the JOURNAL, and shall be glad to include yours. While in New York mechanical restraint is not used, and in most of the higher class of asylums elsewhere, it is a fact disclosed by these discussions that it is practiced still in quite a large number of American asylums, and that an effort is made, endorsed by men of position, to justify its use, and to inaugurate a doctrine that it would be safe to take up and justify mechanical restraint. *Judicious restraint* seems to be the watch word of a proposed practice, based on discretion of the Superintendents, which would depend upon the temperment of each and the characteristics and opinions of each, and in many cases go back to the barbarities of the recent past.

I wish your views on this question, and especially upon the following propositions:

1. If Superintendents like Bryce, Wise, Fletcher, Blumer, Pilgrim, Alice Bennett, J. C. Shaw, and many others in American asylums, and Drs. William Orange, Daniel Nicholson, Dr. Needham, and the great body of Superintendents of British asylums for the insane, can successfully conduct their hospitals for the insane without recourse to mechanical restraints, is it not time for all to unite in the statement that it cannot be longer regarded as *necessary*, much less indispensably so?

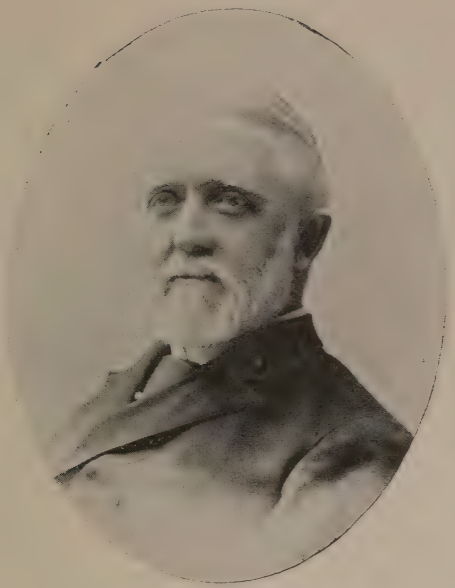
2. Should it not be the duty of Superintendents of asylums to inform themselves of the methods by which the principles of "non-restraint" have been successfully accomplished by these Superintendants who have succeeded in dispensing with restraint altogether?

3. Should not all agree, in view of the public feeling against its use, the well-known tendency to its abuse where used, and the strong tendency and bent towards its improper use when left to the individual discretion of Superintendents, many of whom are without any experience in the care of the insane without it, that the time has arrived when Superintendents should make an earnest endeavor to see, by experimental trial, and by learning of those who have succeeded, to see if it cannot be dispensed with, or reduced to its minimum limits?

An early reply will be regarded as a favor.

Very faithfully yours,

CLARK BELL.



HON. EDWARD W. SCUDDER,
Supreme Court of New Jersey.

HON. BENNETT VAN SYCKEL,
Supreme Court of New Jersey.

Dr. Wm. Orange is one of the most honored and influential names among British Alienists. For many years superintendent of the great Asylum for the Insane called Criminals, at Broadmoor, he has occupied a close relation to the Law Officers of the Crown. He is frequently selected as an expert by the Crown on questions of commutation of sentence of death.

He writes as follows:

12 Lexham Gardens, London, W.,
December 28, 1891.

To Clark Bell, Esq.

Dear Sir:—In compliance with your request I send you a few lines on the subject of the use of mechanical means of bodily restraint in the treatment of insane persons; although, in so doing, I am very well aware that I have nothing new to say upon the subject, nor, indeed, anything which has not been much better said, over and over again, in the past.

I have read the extract from Dr. Bryce's report, published in the March number of the Medico-Legal Journal, and also the letter from Dr. Theodore Diller, the proof of which you have been so good as to send to me, and I cannot for a moment doubt that, if these two papers are read, side by side, so that the manner and matter of the one may be compared and contrasted with the manner and matter of the other, there need be little fear as to the verdict.

Dr. Bryce sets forth his belief in these words: "That the insane, in public hospitals, can be controlled and treated more humanely, and with better results, without the use of strait-jackets, camisoles, muffs, wristlets, restraining chairs, bed-straps, crib-bedsteads, or any other of the various appliances known as restraining apparatus." And then he goes on to say that, for ten years, at the Alabama Asylum, with a household averaging nearly a thousand patients, "there has been no resort whatever to any species of mechanical restraint for either surgical or other purposes;" and further, that there has not "occurred a single case, in the wards of the hospital, during this long period, which seemed to justify or require its use." Thus, in plain language, does Dr. Bryce place on record his experience, and, for my part, I have only to say that, in this matter, my experience corresponds entirely with his.

Throughout the period of sixteen years, from 1870 to 1886, during which I held the office of Medical Superintendent of the Broadmoor Asylum,

which is an asylum established by the Government for the care and treatment of criminal lunatics in England, I did not find it either necessary or desirable to have recourse to any of the appliances enumerated by Dr. Bryce, in the extract quoted, nor did there, throughout that period, occur any case in which, afterwards, I had any reason whatever to regret the non-use of such means of treatment.

Such being my experience, it can readily be imagined that I give my most cordial assent to the terms in which Dr. Bryce states his belief in this matter.

If we now turn from the article of Dr. Bryce to that of Dr. Diller, we find that the contrast in manner and tone is as great as it is in matter.

It would be scarcely fair to assume that the tone of Dr. Diller's letter is characteristic of the school to which he belongs; and it may be hoped that there may be many amongst those who, to a greater or less extent, agree with the opinions which he expresses, who will feel keen regret at the general tone of his letter, and who will take an early opportunity to avow such regret. Dr. Diller, it will be observed, begins his letter by imputing the most unworthy motives to those who differ from him, and he does this in in a manner so offensive as to render the task of taking notice of his letter by no means a pleasant one; and it is to this cause, indeed, that I must, to a great extent, aseribe the delay, on my part, in fulfilling this task; for, if there really be any one who, after reading the writings of Conolly, could venture to make so monstrous a suggestion as that that humane physician, when advocating the disuse of mechanical means of bodily restraint, in the treatment of insane persons, was advocating, not so much what he believed to be right, as what he thought to be politic, I, of my own free will, should prefer to avoid entering into a discussion with such an one. As you, sir, however, have invited comments on this letter, which begins in a manner so unfortunate, I comply, although I must crave permission to make those comments very brief.

Dr. Diller, having commenced his letter with a gratuitous insult to those who venture to differ from him, goes on, in the next place, to sneer at the value of kindness in the treatment of patients suffering from mental disorders; and he ventures on the observation that "kind words," in certain cases, "would do about as much good in deterring these patients, as they would if addressed to a Dakota blizzard in mitigating its force." And here we have a very good example of the danger that is incurred by indulging in the use of illustrations. What, we may ask, has a Dakota blizzard to do with the question? and what similarity is there between a Dakota blizzard and a patient suffering from mental disorder? Does Dr. Diller wish us to understand that, although "kind words" would have no effect in mitigating the force of a Dakota blizzard, yet that complete success in this matter would be attained by the use of "a merciful restraining apparatus?" If this is really what Dr. Diller wishes us to understand, it would certainly be interesting to be favored with an opportunity of examining the kind of "merciful restraining apparatus" which Dr. Diller has been successful in applying to a Dakota blizzard; but if, on the other hand, it should appear, on inquiry, that the attempts made by Dr. Diller to mitigate the force of a Dakota blizzard by means of a "merciful restraining appa-

ratus" have been attended with no greater success than has attended the use by him of "kind words," what becomes of the illustration? I must confess that I find it impossible to regard the letter of Dr. Diller as being one which calls for any serious reply.

It will not escape observation that Dr. Bryce, in his remarks, is speaking of the treatment of the insane in public hospitals, by which expression it may be assumed that the writer is speaking of their treatment in institutions duly adapted for the purpose in view, both as to staff and as to construction. The possibility is always recognized that, under circumstances which are not favorable for the satisfactory treatment of persons suffering from mental disorder, it may become necessary, in some cases, to have temporary recourse to the use of mechanical means of restraint; not, most certainly, because such means are the best absolutely, but only because they are the best under the unfavorable circumstances. Where the choice is limited to a choice of evils, the best course is, doubtless, to choose the least.

Believe me, Dear Sir, yours very faithfully,

W. ORANGE.

Dr. RALPH L. PARSONS, a physician of extended experience in charge of public and private asylums, for years a member of the Medico-Legal Society, and one of its former Vice-Presidents, now at the head of a private asylum at Sing Sing, New York, responds to my inquiries as follows:

DR. PARSONS' PRIVATE HOME FOR NERVOUS INVALIDS,
GREENMOUNT, November 10, 1891.

TO THE EDITOR OF THE MEDICO-LEGAL JOURNAL:

Dear Sir:—The question regarding the use of mechanical restraint in the management of the insane is so broad and far-reaching that it cannot be satisfactorily answered within the scope of a short letter. In fact, many questions are involved which require separate answers, as:

1. Is mechanical restraint *ever* admissable? The answer to this must evidently be in the affirmative, as when the best endeavors of all the persons available to undertake the care of the insane person are not sufficient to prevent him from doing injury to himself or others; and this lack of ability may depend on a lack of physical strength, or a lack of skill, one or both of which conditions are likely to obtain when the patient is not within the walls of a hospital.

2. Is mechanical restraint ever admissable at a hospital for the insane? If there were an insufficient number of helpers, sufficiently skilled and sufficiently strong, to prevent the insane person from doing an injury to himself or to others, the answer must also be evidently in the affirmative. As many as six or eight persons, well skilled in the management of the insane, are sometimes required for the care of an insane person, when neither mechanical restraint, nor drug restraint, which is a form of mechanical restraint, is in use. And this lack of skilled help was the rule, rather than the exception, in asylums in former times, and is liable to occur at what are now considered as well equipped hospitals for the insane; for it is essential

to the proper care of an excited, dangerous patient that the attendants who undertake his care by their physical strength and powers of moral suasion or tact be sufficiently numerous and that they have abundant opportunity for rest, lest they become so exhausted as to lose their power of self control or their ability to perform their duties in a proper manner.

3. Is mechanical restraint ever advisable at hospitals for the insane which are so thoroughly equipped that all the skilled assistance needed is always at hand? Under this state of things it is safe to say that the patient can always be managed successfully without the use of mechanical restraint, and that usually this method is the best. But yet it would be very rash for any one to say that manual restraint alone would, in all cases, be better for the individual patient than mechanical restraint. The skilled physician in charge should be so untrammeled by rules or by sentiment that he could freely decide this question in any individual case. And it may safely be asserted that most physicians would at some time have under their care patients whom *they* could manage better by means of mechanical restraint than without. That some other physician thought he could manage better without such restraint, or that he really could so manage, would not alter the case. In every branch of medicine, or of any other calling, there are individuals whose skill, in some particular, exceeds that of their fellows; but this does not at all prove that their fellows are unskilled.

4. But there are objections to the use of mechanical restraint based on the theory that it tends to take the place of, or to prevent the employment of, such curative measures as may be indicated; and also that it tends to diminish the efficiency and assiduity of physicians and nurses in their attentions to the patient. It must be admitted that this danger exists. A similar danger exists in the use of narcotic drugs. But a danger of this sort should not be allowed to prevent the doing of what is for the best in any individual case.

The inference from the above would be that, practically, with average expert skill and with all needed help, mechanical restraint is advisable only in very rare and infrequent cases, but yet that even under this state of things it is sometimes advisable; while in lack of such help and skill mechanical restraint is not infrequently advisable.

RALPH L. PARSONS.

Dr. JAMES H. MCBRIDE, medical superintendent of a private institution in Wisconsin, thus replies:

MILWAUKEE SANITARIUM FOR NERVOUS DISEASES,
WAUWATOSA, Wisconsin, December 31, 1891.

CLARK BELL, ESQ., 57 Broadway, New York:

Dear Sir:—Your letter is at hand, and I enclose the re-print sent me. I think it is useless to discuss the question of restraint for the insane. It seems to me that nothing new can be said on this subject, and, as I have said once in print, it is one which, from its very nature, will never be settled. The claim that mechanical restraint should not be used at all, because if used it would be abused, is to me a very absurd one. The same argument would apply to chloral, hyoscine, and, in fact, to every drug that is usually

used in the treatment of the insane ; indeed these drugs are much more apt to be abused than restraint, and when abused, the harm that results, much more lasting.

Very truly yours,

J. H. McBRIDE.

Dr. RICHARD GREENE, one of the leading English superintendents of county asylums, replies as follows :

COUNTY ASYLUM, BERRY WOOD, NORTHAMPTON,
13th January, 1892.

Dear Sir :—My views on the question of restraint or non-restraint have not altered during my experience of twenty-two years in county asylums. I believe it to be *possible* to treat the insane without restraint; but I do not believe it is always *desirable* to do without restraint ; therefore I occasionally resort to it. Perhaps I should say I rarely resort to it. During the year 1891, with an average of 800 patients, I used restraint on one patient, the means used being the stitching of the sleeves of his coat to the sides of the coat. The patient was beating his cheeks to a jelly, and I considered this preferable to the employment of a couple of attendants to control him.

The Commissioners in Lunacy, in their Blue Book for 1888, when speaking of restraint, say, "We could not condemn its employment in every case and without exception, for to do so would, we thought, be adverse to the interests of the insane themselves." This view is, I think, held almost universally by the medical superintendents of our county asylums. Dr. Gardiner Hill, medical superintendent of the Wandsworth Asylum, says in his report for 1890, "Because this form of treatment is unpopular, it is no reason why it should be discontinued altogether, for there are exceptional cases in which the use of restraint may be fully justified."

By the way, you are wrong in attributing to Conolly the introduction of our non-restraint system. It was Gardiner Hill, the father of the above-mentioned Dr. Gardiner Hill, who was the first to abolish restraint. You will find this part of the history of non-restraint worked out by Dr. Richardson in the *Asclepiad* for the third quarter of 1887 ; and I referred to the question in a paper of mine which appeared in the *Universal Review* for August, 1889.

I remain very faithfully yours,

RICHARD GREENE.

Dr. C. B. BURR is a superintendent of long and extended experience in charge of one of the largest hospitals for the insane in Michigan, and his views are entitled to great weight, both from his practical knowledge, and from his long experience in contact with the insane.

EASTERN MICHIGAN ASYLUM, PONTIAC, MICH.,
November 16, 1891.

CLARK BELL, ESQ., Editor MEDICO-LEGAL JOURNAL:

Dear Sir:—Your polite note is received. I take pleasure in complying with your request to give my views in the matter of restraint in the management of the insane.

The institution with which I am connected has been committed to non-restraint as a principle for many years, and as a practice, restraint was virtually abandoned long ago. While committed to this principle, however, and believing it to be eternally right, it has not been pursued as a hobby, and the wisdom of mechanical restraint in occasional cases has been persistently set forth and defended.

The *principle* of *non-restraint* is *wise and right*—

1st. Because of the pleasanter relation and better feeling existing between attendants and patients where mechanical restraint is not applied.

The element of personal antipathy and antagonism so apt to to be present in the mind of a patient where mechanical restraint is used—particularly where a high degree of force is necessary to apply it—strains the subsequent relation of the patient to the attendant, and creates a feeling of soreness and disaffection which is apt to be enduring, and which on occasions materially interferes with the patient's recovery.

2d. Because of the danger lurking in the indiscriminate use of restraint.

The confinement of the limbs of a patient suffering with acute mania, for example, creates physical pain, lameness and discomfort, with resulting irritability. Excitement is prolonged and intensified, and the restlessness which springs from disordered brain action, not being given vent or diverted into healthy channels, increases brain perturbation, and may be the occasion of more violent excitement, acute exhastion, and death.

3d. Because the adoption of non-restraint as a principle develops the resources of attendants.

Given restraint as a frequent resource in the management of patients, it is the first expedient thought of, and is applied early and often. The insane energy which it should be the duty of the attendant to divert into useful ways, or repress within reasonable limits, is suppressed altogether. The attendant no longer sets his mind to the work of devising ways and means for individualizing his patients and meeting emergencies. A patient, for example, breaks out a light of glass, and is restrained. The impulse which occasioned the breaking of the glass is relieved by the act of destructiveness. To restrain him after the act is committed, as a rule, merely serves the purpose of increasing his irritability, and encouraging a spirit of lawlessness and violence. The impulse being relieved by the act which it occasioned, to restrain is equivalent to locking the barn after the horse is stolen. The recourse to restraint not occurring to the attendant, he devises ways and means to divert the patient's mind, when at some future time, he is threatened with recurrence of the impulse. He closes the stable door in time to prevent the theft.

4th. Because restraint promotes habits of degradation and untidiness.

The restrained patient is helpless. He cannot go to the closet without the

assistance of the attendants, and even if his mental operations are of such a character that he is able to ask for what he requires, he is perhaps deterred from preferring the request by the antagonism toward the attendant which the application of restraint has aroused. Further, if he is perverse, and bent (as so many patients are under those circumstances), on making the lives of the attendants uncomfortable, he will deliberately soil his clothing to create trouble.

5th. Because of the danger of the formation of the *habit* of restraining.

A patient will perhaps be restrained one day because circumstances have required this action on the previous day, while the mental condition of the patient may be wholly different. A spirit of timidity arises in the mind of the attendant, and he has not the degree of confidence in his patient which is so necessary to their friendly relations. He restrains him one day because of the fear that he may do something which he has done the day before, much to the patient's dissatisfaction, humiliation, and irritation.

6th. Because of the lack of moral or restraining effect upon the minds of patients or their associates where the use of restraint is frequent.

In a non-restraint institution a patient regards the application of mechanical restraint, used only at rare intervals and as a last resort, as an unenviable distinction, and avoids, as far as lies in his power, the necessity for its subsequent use.

7th. Because of the danger which exists of the use of restraint exciting in the mind of some susceptible patient a desire to imitate.

An hysterical, emotional girl, for example, who prefers any distinction, however unenviable, to being ignored, will sometimes deport herself in such a way as to necessitate restraint, provided she sees it used in other cases.

Restraint is, in my judgment, *absolutely necessary and unavoidable*—

1st. In certain surgical cases.

The importance of the use of restraint in certain surgical cases to promote quiet and to prevent the patient from disarranging important surgical dressings, re-opening wounds, and removing splints and bandages, will hardly be denied. No form of manual restraint can in such cases take its place.

2d. It is also absolutely necessary and unavoidable in a *very limited number of cases with homicidal tendencies.*

I should strictly limit its application to such cases as possess great strength and are persistently and determinedly homicidal. Where, notwithstanding employment, diversion, the adoption of various moral measures, and the exercise of all reasonable means to change the patient's mental action and substitute for the homicidal propensities amiable characteristics and natural impulses, efforts are unavailing, and where the great strength of the patient renders struggles with him dangerous to the life or health of himself or his attendants, I believe restraint to be entirely necessary and defensible.

3d. It is necessary and unavoidable in a certain number of *suicidal cases, and in cases where the propensity to self-mutilation exists, particularly if delusions are strong and persistent.*

If a patient displays these tendencies, and has physical strength, determination and cunning to the extent that constant personal attention during the day-time and the presence of a night-nurse during the night are not sufficient to deter him from yielding to his impulses, restraint is practically indispensible.

4th. It is also necessary and unavoidable in *prolonged, furious excitement, such as is seen but few times in a long asylum experience*, where manual restraint exercised by three or four attendants is insufficient to keep the patient within bounds, prevent him from dashing himself to the floor or agaisnt the wall or through the window, in his unreasoning and terrible frenzy.

Restraint is *possibly expedient and justifiable* in aggravated cases of destructiveness.

Here much caution should be exercised. In my experience, not one case in a thousand presenting destructiveness as a symptom would be a proper subject for restraint. Every expedient should be tried, and many tried, re-tried, and tried again, before the last resort (restraint—a confession of failure), is made use of.

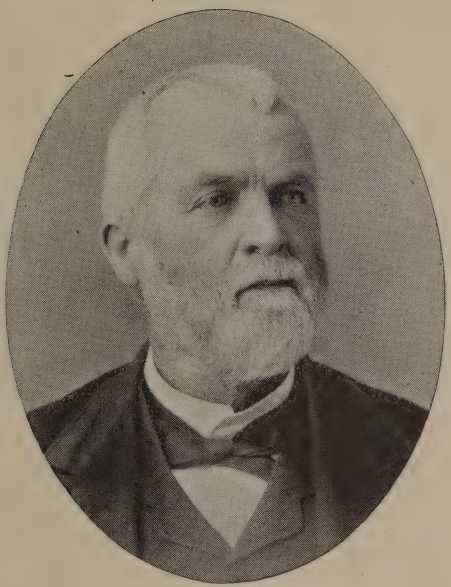
On the day that this is written, the Eastern Michigan Asylum has in restraint one patient in 940 cases under treatment, and for the reason last referred to. At the time I began my asylum career, thirteen years ago, the institution accommodated in the neighborhood of 500 patients. Of these, it was at that time thought necessary to restrain upwards of a dozen or fifteen patients daily, and many of them nightly. Thus has reform in our attitude toward patients, and progress in their care, been displayed. With our 940 patients, there is now less noise and excitement, less general untidiness, vastly less irritability and disorder, and a much greater respect for life and property on the part of patients, than then existed, and the relations of attendant to patient are more friendly, and more like those of nurse and companion. Accidents are much fewer and damages far less extensive. Curtains, pictures, mantels, mantel ornaments, and bric-a-brac adorn all halls, without exception. Occasionally a patient in a disturbed hall will, in a moment of irritability or excitement, remove the ornaments from a mantel and throw them out of the window. Such instances are rare, however, and the public spirit among patients of respect for property leads them to co-operate with the attendants in protecting articles of furnishing from the onslaughts of the mischievous and malicious.

In conclusion, I would say (if this conviction is not to be inferred from the foregoing), that I am a thorough believer in non-restraint as a principle, and an earnest advocate of it at all times.

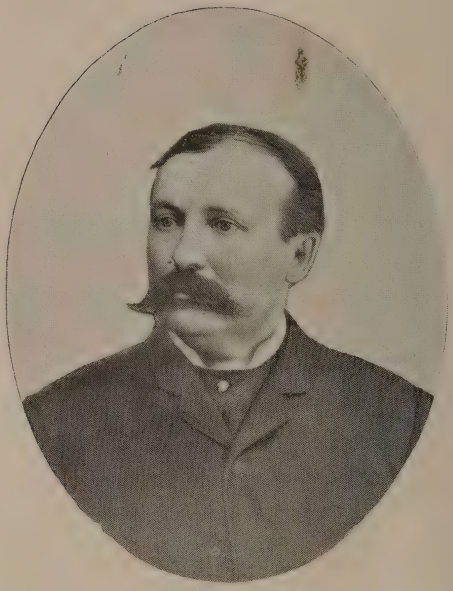
Very truly yours,

C. B. BURR,
Medical Superintendent.

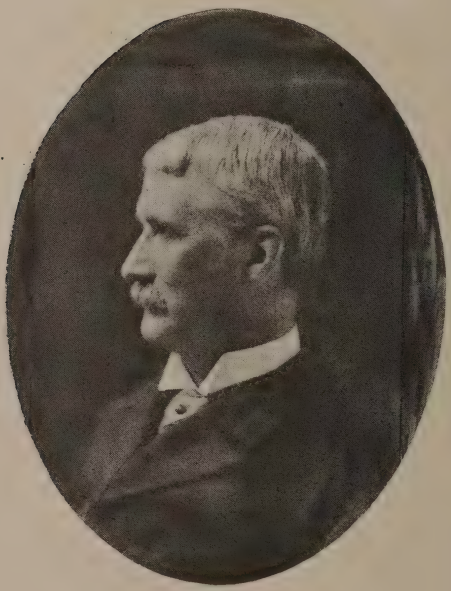
Dr. NEEDHAM is a high authority among British alienists, and I quote from his report of 1888, at a time when this subject attracted so much attention in England.



HON. JOHN L. HENRY,
Associate Justice Supreme Court of Texas.



HON. ALFRED REED,
Supreme Court of New Jersey.



HON. WM. J. MAGIE,
Supreme Court of New Jersey.

Dr. Needham's report of Barnwood Home contains his views regarding mechanical restraint.

"No mechanical restraint has been used during the year, and seclusion has been resorted to very sparingly and only under exceptional circumstances.

"With a sufficient staff of competent and experienced attendants I consider these abnormal expedients to be practically unnecessary, and their frequent adoption to point to remediable defects which in no institution for the insane should be suffered to exist.

"Both of them are allowable as means of medical treatment, under infrequent and exceptional circumstances, and a superintendent would, I think, be unwise, who repudiated them altogether, because they are unpopular and, when abused, may lead to undesirable results.

"But he certainly would not be justified in their use from motives of economy or to obviate defects in the number or quantity of his attendants or nurses, or to save the trouble of resorting to more complicated, but less objectionable expedients.

"It may be said broadly that the modern practice of approximating asylums as closely as possibible in the furniture and decorations, and in the absence of special asylum features to ordinary dwellings, of removing unnecessary restrictions and extending personal liberty as widely as is compatible with safety and public comfort, has done much to render such methods of management rarely necessary."—*Journal Mental Science*, Vol. 35, p. 243.

Dr. POWELL, the well-known superintendent, in his report for 1888 on the use of gloves as a means of restraint in Nottingham Borough Asylum (England), says:

"The gloves were used in the case of a man who night after night destroyed every article of his clothing, bedding, etc. He continued to wear them for some time, but no sooner were they left off than he resumed his old habit, and, instead of restraining him again, I placed him to sleep in the observation dormitory, and instructed the attendant to prevent him from tearing his clothes.

"The result has been, to a considerable extent, satisfactory. The experience of this case has strengthened the view, which I held before, that where it is possible to keep patients from their mischievous habits by means of personal attention, it should be done by night as well as by day, because there is no doubt that to restrain mechanically has a degrading influence upon the patients, and also has a bad effect upon the attendants; it makes them less energetic and careful if they know that means other than their attention are readily applied to prevent patients doing mischief."—*Ib.*, Vol. 35, p. 432.

Dr. TATE, the well-known superintendent of the lunatic hospital at Nottingham, England, in his report for 1888, says:

"I have much pleasure in stating that another year has passed without either *restraint* or *seclusion* having been been found necessary. During my thirty years of superintendence I have endeavored to avoid the use of either, and with the exception of one instance of the latter, I have so far succeeded in doing so. I have been strongly tempted on several occasions to employ both, but by delaying the evil hour have been enabled to do without either. An occasion might, however, at any moment arise, when I should consider mechanical restraint of some sort not only necessary, but the wisest and most humane method of treatment."—*Ib.*, Vol. 35, p. 432.

Dr. G. A. TUCKER is the author of "Lunacy in Many Lands," and has visited more asylums for the insane than any other ten men in the world together. He has resided in Australia, but is now in London. He says:

"Mechanical restraint, according to Webster's English Dictionary, "Pertaining to, governed by, or in accordance with, mechanics, or the laws of motion; depending upon mechanism or machinery."

I can understand superintendents of very large and perhaps overcrowded asylums, where individual attention to the patients by the superintendent becomes laborious or impossible, with perhaps an insufficient number of attendants, adopting restraint as a means of security and relief from anxiety.

The same may apply to the superintendent who undertakes other duties than those appertaining to his office of medical superintendent, work that calls him away from his patients for a considerable portion of the day, and there are some whose time is greatly taken up with outside duties.

My opinions on this subject are strongly expressed in my book, "Lunacy in Many Lands," which please refer to.

"Pleasant surroundings, occupation, and adequate individual attention and treatment, are effective substitutes for restraint."

I found 219 asylums using restraint, and 118 asylums where no restraint is used.

"As a rule, where restraint is most used, it will be found that the management is the most defective."

G. A. TUCKER.

Dr. YELLOWLEES, who has been President of the British Medico Psychological Association, and perhaps the foremost of English alienists who seek to introduce mechanical restraint in British Asylums, defends the system. His reply is as follows:

ROYAL ASYLUM, GARTNAVEL, GLASGOW, Nov. 21, 1891.

CLARK BELL, ESQ., EDITOR OF THE *Medico-Legal Journal:*

Dear Sir:—I fully appreciate the compliment you pay me in desiring—through your letter to our mutual friend, Dr. Ireland—to know my views on non-restraint.

I have already given them so fully in our *Journal of Mental Science* for January, July, and October, 1889, that you must please forgive me if I refer you to these writings. The first is the fullest, but I content myself with a short quotation from the latest.

I also send you herewith the "deliberate opinion" of our Medico-Pychological Association on the subject. You will find it in paragraph 22 of the accompanying report, and we have few who differ from it.

"The question whether the use of restraint is ever beneficial, and therefore right, in the treatment of the insane, might surely in these days be considered on its own merits, and apart from traditional authority or personal bias. There is no other question of medical treatment about which physicians may not legitimately differ, and agree to differ; but let anyone dare to think or act independently as regards this particular treatment, let him dare say that restraint prescribed by a humane and experienced physician is totally different from the restraint inflicted by cruel or unenlightened men in bygone days, and he at once encounters reproach and blame, as if non-restraint were a rule revealed from heaven, whose universal obligation and absolute wisdom it was little less than sacrilege to question.

"Is not an asylum in its very nature a place of restraint as well as of treatment? Is not seclusion but a loose kind of personal restraint? Is it not interferenee with personal liberty to feed by the stomach-tube, and a yet greater interference to inject poisonous drugs into the tissues? Yet all this may be right and proper and praiseworthy; but if you dare under any conceivable circumstances to fasten the patient's hands, or to swathe him in blankets, you have committed an outrage on humanity, and deserve the direst censure.

"This *reductio ad absurdum* obviously needs some excuse, and when reason fails them, the extremists fall back on sentiment. They pose before the public as the special friends and protectors of the insane, declaim against backsliders, and prophesy the re-degradation of the insane and the return of all the horrors of the restraint; all because some physicians, who are as humane and benevolent as themselves, and their equals in skill and experience, decline to accept the rule of absolute non-restraint, and believe that in certain rare and exceptional cases restraint may be the best and the kindest treatment. The excuse is bad, and the sentiment mistaken.

The abuse of anything can never condemn its proper use, and the tacit assumption that the devotees of non-restraint are kinder, more humane, and more anxiously considerate of the welfare of the insane than their medical brethren is uncharitable and groundless."—Dr. Yellowlees, quoted from *Journal of Mental Science* for October, 1889, p. 478.

Yours very faithfully,

D. YELLOWLEES.

Dr. Yellowlees enclosed me a copy of a report of a select committee appointed by the British Medico-Psychological Association at the annual meeting of 1890 to formulate propositions as to the care and treatment of the insane, composed of Dr. Yellowlees, President, and Drs. Clouston, Ley, T. McDowall, Needham, Hayes, Newington, Rogers, Savage, Hack Tuke, Urquhart, Whitcombe, and Ernest White. The report contains thirty-two clauses or paragraphs of opinions, as formulated by that committee, the first nine of which are "Regarding Insanity Generally," the next eight (10 to 18), "Regarding Patients in Asylums," the next eight of which (18 to 25) are "Regarding Special Classes of Patients," and the last seven (No. 26 to 32, inclusive) are "Regarding Administrative Staff, &c., of Asylums."

Paragraph 22 of this report, to which Dr. Yellowlees refers in his letter, is as follows:

"22. In exceptional cases, seclusion and restraint are needful and beneficial. They should be used without hesitation, but only as a means of treatment, and by medical order, and their use should be recorded with punctilious care."

I take occasion to cite paragraph 21 from the same report, as germane to the discussion, though not quoted by Dr. Yellowlees, which is as follows:

"21. Concerning dangerous and destructive cases, abundant exercise or occupation in the open air, an ample staff of attendants, attractive surroundings, and the wise use of baths and of calmative medicines, suffice for the care and treatment of many cases of this class, without any need for restraint or seclusion.

"The admission into county or borough asylums of prisoners who have become insane is much deprecated, since their influence is subversive of morality and discipline."

PRESTON LODGE, PRESTONPASS, EAST LOTHIAN,
SCOTLAND, 9, 11, '91.

Dear Sir:—I have transmitted your letter, with the enclosures, to Dr. Yellowlees. In the *Journal of Mental Sciences* of January, 1889, p. 621, you will find not only his opinion on mechanical treatment, but those of some other physicians experienced in the treatment of insanity. My own views are given on page 625.

It seems to me that in some cases of extreme violence and restlessness mechanical restraint is more efficacious and less irritating than treatment exercised by the muscular resistance of attendants.

It has been abused in times past, but not more so than muscular force has been.

It has been well said that, in this country at least, the use of mechanical restraint is a measure of the conscientiousness of the Superintendent. A selfish, calculating superintendent would not use it at all. He would know that he was in danger of censure for so doing, and would prefer throwing the burden and danger upon the attendants and the patient.

From the debate reported, you will see that the superintendents at the meeting were unanimous in favor of mechanical restraint on some occasions, though they might differ as to the frequency of these occasions.

Hoping this may find you well, I remain—

Yours truly,

W. W. IRELAND.

TO CLARK BELL, ESQ.

The communication of Dr. Yellowlees brings to mind the exciting discussion in England regarding the subject of mechanical restraint as practiced at Bethlem Hospital.

This had originally been conducted in the lay press, as we recollect it, by writers in the London *Times* and elsewhere, prominent among whom was the celebrated Dr. John C. Bucknill, who had attacked an apparent return to the use of mechanical restraint in that hospital.

At the meeting of the British Medico-Psychological Association, Nov. 8, 1888, Dr. Clouston, the President, in the chair, in Edinburgh, Scotland, Dr. Yellowlees introduced the subject in an elaborate paper in defense of "one of the ablest and best-known of our asylum physicians, who has been arraigned for the undue use of restraint, and arraigned by one of the best-known and most distinguished psychologists in the country, joint author of the largest and best-known of all the

treatises on Psychological Medicine," as stated by Dr. Yellowlees in his paper, alluding to Dr. Savage on the one hand and Dr. John C. Bucknill, on the other.

Dr. Yellowlees has stated in his letter the summary of his views, but what he did say, as reported in the January number, 1889, of the *Journal of Mental Science*, pp. 621, *et seq.*, was then understood and probably intended, more from a feeling of loyalty, and as a defense of Dr. Savage, than a justification for any retrograde step in British asylums as to the use of mechanical restraint in such ways as it was then employed in so large a number of American asylums.

The language employed, however, was quite broad enough to encourage that large class of superintendents who resorted to mechanical restraints quite generally in their practice, and was a blow to the efforts of those who endeavored to eliminate acknowledged abuses, by its total abolition, as a choice of the lesser of two evils.

It was true that in England opprobrium attached to those known to use mechanical restraints, and Dr. Yellowlees remarks were a decided protest against such a fact, when its use could, in his opinion, be justified in the rare and extreme cases, which he designated as—

1. In cases where the suicidal impulse is intensely strong.
2. In cases of extreme and exceptional violence.
3. In extremely destructive cases.
4. The helpless and incessantly restless patients.

In the discussion that followed at that meeting there was no marked dissent, though many differed with Dr. Yellowlees, and Drs. Ireland, Robertson, Trumbull, Urquhart, Howden, Rorie, Rutherford, Watson, Johnstone, and the President, Dr. Clouston, participated.

It was a peculiar situation, and the assault upon Dr. Savage had been so severe and serious that, considering his

relation to the Society and its journal, marked dissent would have been regarded as almost a personal assault upon him.

Dr. Robertson voiced perhaps the correct sentiment in saying—

"That he was sure Dr. Savage had not used restraint unduly. He thought it hard that the man who was doing something to cure his patients should be abused, etc., and on this account he held Dr. Savage deserved the sympathy of the Association."

There was not one member who spoke against the use of restraint, of those present, on principle, and the discussion was in such form that it would have been a substantial censure of Dr. Savage to have done so.

The questions involved, were, however, higher than personal considerations, or the mere opinions of men, no matter how prominent.

The real issue was, underneath all, should English superintendents abandon the ground almost universally held for the past half century and resume restraint in practice in the individual discretion of superintendents who believe it easier to resort to it than to dispense with it.

The protest that attracted most notice was the vigorous one of the distinguished Dr. Alex Robertson, physician to the Royal Infirmary and City Parochial Asylum of Glasgow, Scotland, who published his views in the April number of the *Journal of Mental Science*, 1889. I give his letter as a part of the present discussion:

To the Editors of the Journal of Mental Science:

Gentlemen.—The Journal for January of the present year contains a report of an important discussion "On the Use of Restraint in the Care of the Insane" at the Edinburgh meeting of the Association in last November. As I was unable to be present, I ask you to be so good as to permit me to express my views through the medium of your columns on this very important subject. I learn from the report that it has been the occasion of a controversy in the *Times* between leading members of the profession in the south, but as I have not seen the articles on either side, my remarks can in no way be influenced by the opinions of any of the writers.

Many, like myself, will have learned with no small surprise that the use of mechanical personal restraint, to a somewhat considerable extent, is advocated by physicians in charge of leading asylums. Hitherto even intelligent laymen, when they have had occasion to refer to the evidences of progress in the nineteenth century, have in illustration pointed with pride to the non-restraint system of treatment in our asylums for the insane. Distinguished Continental and American physicians have studied it in operation in these institutions, and recorded their high appreciation of the results. Its beneficent influence has also extended to many of the asylums of other lands. While I write, the biennial report of the Alabama Insane Hospital has just been received. Dr. Bryce, the physician-superintendent, in referring to "the abolition of all mechanical restraint" some years ago, remarks: "Every year's experience since that notable event has impressed me more and more forcibly of its supreme wisdom and efficacy; our wards are as quiet under this system as those of any well-ordered private family." After many more remarks of a similar kind, he closes with a note of warning, "Let us see to it that we take no step backward."

Many of us can still recall the gratification felt on the presentation of of the bust of Conolly by the late Baron Mundy, M. D., to the Association, and afterwards through its representatives to the Royal College of Physicians of London. That eminent physician, in his eulogy of Conolly on the occasion of its formal acceptance by the College, said, addressing the chair, "You have been enjoying for almost a quarter of a century the work of the great man who is no more, and still your neighbors, close to your shores, have yet, at the moment I address you, two thousand unfortunate beings tied in strait jackets . . . and the total number of insane on the Continent confined in cells, fastened in beds, and strapped up in strait jackets amounted in 1867 to fifty thousand. It is for me as a foreigner a humiliation, and perhaps at the same time a proof of my professional courage that I denounce these facts before so high an authority as yourself, and on so solemn an occasion as this of to-day." The President of the College, the late Sir Thomas Watson, in the course of his reply, remarked: "His (Conolly's) name will go down to a remote posterity, and be reckoned among those of the greatest and most noble benefactors to a very suffering portion of the human race that our profession and our country have ever produced." Little did either of these eminent men then think that within twenty years of the time they spoke, physicians of eminence at the head of some of our chief asylums would have advocated a return to the use of measures of restraint whose all but total abolition was the special glory of Tuke at York, and Conolly at Hanwell, and reflected honor on the land of their birth.

[TO BE CONTINUED.]

RETIRING ADDRESS.*

BY CLARK BELL, ESQ., AS PRESIDENT OF THE MEDICO-LEGAL SOCIETY.

To the Fellows of the Medico-Legal Society:

It is twenty years last November (1891) that I was elected to the Presidency of this body, and it may not be uninteresting in the few words I shall say in introducing my successor, to give a retrospect of the progress of the Science of Legal Medicine in the intervening years, and touch on the influence of the Medico-Legal Society upon the growth of public interest in its advancement during that period.

I found the Society then a small but earnest group of men, who had gathered around that center to awaken an interest in the professions of Law, Chemistry and Medicine, in the more careful study of the science of Medical Jurisprudence, and to bring the professions of Law and Medicine, then standing aloof and at arms length from each other, into more intimate personal and social relations, and all these professions united in the the Council Board of a body formed to become earnest searchers after the truth. Of the early names that were gathered into this work, but few survive. Dr. Finnell, the first President, Dr. Stephen Rogers, who interested me and brought mé into the body, have passed into eternal rest. Prof. Frank Hamilton, whom I nominated as my successor in 1875, after my first three years of service, and Dr. Charles S. Wood, who later succeeded as President, have also passed away. There still survive Hon. Jacob F. Miller, who followed Dr. Finnell as President of the So-

*Delivered January 13, 1892.

ciety, Hon. Geo. H. Yeaman, who succeeded Dr. Hamiltom, Prof. R. Ogden Doremus, and Dr. Isaac Lewis Peet, who have each served terms as President, but the major part of the time since 1871 I have led the students who have kept the fires burning upon the altar in this temple of science. Of the lustrous names that I brought into this Society, which we have survived, I shall mention only Dr. James R. Wood, the great surgeon, Hon. E. W. Stoughton, Edward Dickinson, Aaron J. Vanderpool, Prof. Fordyce Barker, Dr. Geo. M. Beard, Judge John R. Brady, out of a list of hundreds of others who participated in our earlier labors.

The library was founded during the first year of my service. The volumes of the earlier labors were published up to and including Volume Three in what are known as Medico-Legal Papers, and a large illustrated edition was also issued of Volume One. Volume Four is now more than half completed, as is also Volume Five.

The Medico-Legal Journal was founded in June, 1883, and from its small beginning is now completing its ninth volume—going to your members and subscribers in all lands.

The movement to make the body national and even international, although more recent, has been crowned with great success. Its active membership is now extended into nearly every State and Territory of the American Union, and into foreign provinces and countries; while its corresponding list of members embraces the greatest names of the professions of Law and Medicine in all parts of the civilized globe. A Vice-President has been elected from nearly every American State and Territory, as well as from many of the leading foreign countries of the world.

The ashes from this altar traversed the Atlantic and were kindled into a flame in Paris that blazed up into the Medico-Legal Society of France.

A similar movement is more recent in Italy, and the study of the science has been quickened and stimulated in every capital of Europe by the labors of this body.

In America, similar societies devoted to the science have been founded in the cities of Chicago, of Philadelphia, of Denver, and in the States of Massachusetts, and of Rhode Island.

We need not stop to recapitulate or measure the influence this body has brought to bear upon legislation in the American States, nor upon the public sense, of the intimate relation the science bears to the rights of the citizen in the administration of Justice, in the public tribunals, civil and criminal.

No one can now measure it. The careful student of our century, who writes at the middle of the next, can better judge of the great work this body has accomplished during the past twenty years, than could any one now. From a small body of men we have grown to a Society which now numbers more than 1,000 names on its active, corresponding, and honorary lists.

Not the least important of our labors have been those in connection with the International Medico-Legal Congress, held in this city in June, 1889, and which then perfected an organization, which has decided to hold a second session in 1893, as we hope, in Chicago, in which students of the science throughout the world are now enrolling themselves.

These, in brief, have been our labors. And these open up the field of the future usefulness of this body. As I have been selected to preside over the International Congress of 1893, and the labors of preparation for that event, in connection with editorial duties upon the Journal, I have been compelled to ask for assistance, or, rather, relief from the duties of your presiding officer.

The Society is most fortunate in having for some years in

its membership a member of the judiciary of a distant State, who has recently come to sojourn in this city. He has been selected, upon my nomination, to fill this chair. He is a stranger to many of you personally, but he is well equipped for the work you have entrusted to his hands.

The increasing burdens of my professional life have compelled me to retire from a portion of the duties placed upon me in advancing Legal Medicine in the world, and I know of no safer hands in which to place the trust than those selected by the suffrages of your body.

I have the honor, ladies and gentlemen, and I assure you it is a sincere and a great pleasure, to present, as my successor, Judge H. M. Somerville, late of the Supreme Bench of Alabama, as President elect for installation as President of the Medico-Legal Society of New York.

MEDICAL JURISPRUDENCE, THE BAR, AND THE JUDICIARY.*

BY CLARK BELL, ESQ., OF NEW YORK CITY, PRESIDENT INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.

The true aim of the advocate, he who aspires to a high place in the profession, should be to master the law as a science, and to leave no door of her temple unopened beyond, from or through which knowledge in any department or branch could be derived.

That student of the law whose aim is highest must needs study, from the foundations upward, rather than from precedents or recorded decisions, inward or downward.

The fault of modern legal education is most conspicuous where it ignores the fundamental principles of a science conceded to be exact, but whose study must needs be complete, exhaustive, organic, and profound to him who would absorb it, because the neophite has neither time, inclination nor opportunity, in the present schools of law, to do more than classify its outlines, much less to master its principles; and so the graduates of these schools can rarely have learned at graduation anything more than a superficial view of those elementary principles that form, make up, and underlie what the concentrated learning of the great jurists of all the world have defined to be the law as a science.

The old school of the Bar, the men who were profoundly learned in principles, whose study of cases was frequently

* Read before the New York State Bar Association, January 21, 1892, and the Medico-Legal Society, of New York, February 10, 1892.

to see whether, and how far, the judges had sustained or departed from the underlying and controlling principles of a case—these men taught the law to their students and devotees much as Justinian framed his institutes, or Blackstone wrote his celebrated commentaries. To the modern student of the law school these works are undecipherable without a thorough reading and knowledge of the civilization of the age and the environment of the men who produced each.

I never place Blackstone's commentaries in the hands of one of my students without first asking him to read, with care, the introductory chapter of Robertson's History of Charles the Fifth, so that he may understand what feudal tenures were, and know of what Blackstone speaks regarding the social fabric of the times in which he wrote. The tendency, the whole trend, of legal study in our day seems, however, rather to have avoided considerations which controlled the abler jurists of the first part of this century, and our young men, varnished, furbished and brightened in certain departments of the science, come into the profession from the schools with crude ideas of what a mastery of the law means, and so drift, almost of nesessity, into specialties, except a rare few, who are ambitious to attain higher excellence and cultivate more profound research, and who delve at the foundations for superior knowledge.

We rarely meet with the young lawyer now who rightly regards the law school as a mere vestibule or passage way that leads up to the profounder study of the law; and it is only to such that we may look for that solid learning, great legal acquirements, and profound study which characterize and mark, as the rich rewards of application and high endeavor, the paths trod by those great names, who are, by general consent and acclaim, named as the uncrowned kings of the legal profession. It is, perhaps, natural that in a scramble, or hurry and scurry race, over the heads or depart-

HON. CHARLES GRANT GARRISON.
Associate Justice Supreme Court of New Jersey.

HON. GEORGE T. WERTS,
Associate Justice Supreme Court of New Jersey.

ments of the science, that many students feel compelled to make, such only should be selected as seemed most prominent, and thus apparently the more valuable; and such ignored or excluded as were considered least desirable in practical results, like men in a burning dwelling seizing those articles easiest to reach and safest to remove.

MEDICAL JURISPRUDENCE.

This may have been the controlling reason, or one of the most important ones, why Forensic Medicine has not received that attention in the curriculum of legal study that its importance demanded, or that higher order of scientific research which its acquisition required.

It is a rare thing now, in the American schools of law, to find a chair of Medical Jurisprudence in fact, or frequently even in name, and it is a scandal upon our law schools that they frequently graduate young men, and receive them into the profession, who have not studied this branch at all, or who have merely skimmed the surface of a few text-books, if they have ever entered even the head lines of leading subjects upon their note books.

This is a great stain upon our law-school system, and lowers our standard of legal education, and it should be at once rectified.

If we are to regard the profession of the law as one of the learned professions, we should not be willing to consent that an institution should graduate a man, ignorant of the simplest principles of Medical Jurisprudence, any more than one who knew nothing of the laws of practice, or of the principles of commercial law. See what is in the immediate field of labor of the graduate who commences to practice the profession of the law in almost any sphere into which he may be thrown, even at the outset.

1. The law regarding undue influence in respect to wills.

The law of testamentary capacity. The law relating to insanity as affecting civil responsibility in wills, deeds, or contracts and the whole domain of commercial law.

2. The wide field of law regarding the insane, their care, treatment, and their civil rights as such. The question of responsibility of the insane in criminal cases and the questions involved, extending into all the ramifications of our national life.

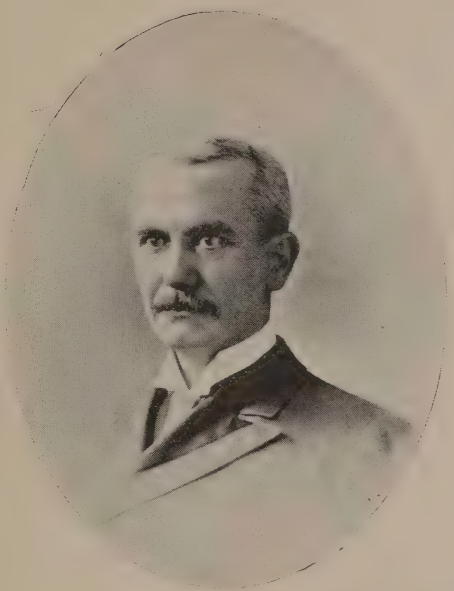
3. The domain of State medicine, of life insurance, of malpractice, and the whole work, scope and duty of the coroner's office.

4. The administration of Justice, with the work of the public prosecutor in a large line of criminal cases, requiring the same knowledge of Forensic Medicine in him who prosecutes as he who defends.

5. The whole field of toxicological inquiry, with its close relation to the bench, the bar, and the administration of justice.

It has often seemed to me that the general ignorance of the profession, upon questions such as these, is something deplorable, and yet what a splendid field of study for the thoughtful and ambitious student is here opened, and how can any member of the bar deem himself worthy to enter the lists in forensic contests without preparation in that department of the law known as Medical Jurisprudence?

It has been a refuge of necessity for the lawyer called suddenly into a case demanding knowledge upon this intricate branch of the law to read up for the case at hand when the case presents itself. But where will he read? I remember when a boy, in my student life, standing by to see two country physicians conduct a surgical operation, where one held the book and read from it the instructions while the other cut. The blood flowed from the suffering patient while they discussed the true route of the knife, and our



HON. ALEX. T. McGILL,
Chancellor and Presiding Judge Court of Errors and Appeals
of New Jersey.

case lawyers, in medical jurisprudence, present much such a spectacle and the client bleeds in much the same manner.

THE BAR.

Twenty years ago, when I was first called to the chair of the Medico-Legal Society of New York, (an organization formed and carried on to interest men of the two professions thrown in contact by questions of Forensic Medicine, to incite each to its more careful study, and to bring them into nearer and more intimate relations, socially and professionally, with each other,) there was no place where any collection of works upon Medical Jurisprudence could be found worthy to be called even the nucleus of a library in that great city, the metropolis of the nation.

There has been some progress made in those twenty years, not only in the city of New York, but in the State and the Nation, and the importance and claims of the science upon the bar, has advanced *pari passu* with the useful and persistent work of that body.

The library of the Surgeon-General's office at Washington—thanks to the splendid energy of Dr. Billings—has grown within that period to be the best and most complete collection of works upon Medical Jurisprudence, not only upon our continent, but probably the whole world.

Almost the first step taken by me when I came to that chair was to found a library of Medical Jurisprudence in New York, which is now second only to the one in Washington, while all the law libraries have been inspired with greater zeal in increasing the value and importance of works in this department of legal science, and the lawyer of to-day suddenly called without preparation into this class of cases, all over the nation, can make easier answers to inquiries than he could ten, or even five, years ago.

It is not a good thing for the active lawyer to defer his

study of the elementary principles of Medical Jurisprudence until his case arises, even if his office was in an alcove of the best library of Medical Jurisprudence in the land.

It is a branch of the science requiring thoughtful, careful, and closer study than many others, and much as the fate of he who is forced by his training, environment, and education to be merely a "case lawyer," is to be deplored even in general practice; no where is his failures more likely to be fatal and more mortifying than in those cases, which, for the purposes of this address, I may designate as "Medico-Legal Cases."

Take for example the lawyer who acts as District-Attorney, or his assistant, in the prosecution of criminal cases, in cases of homicide and lesser grades of offenses where these questions arise. How illy fitted is any member of the bar for the discharge of the duties of such an office who has not studied Medical Jurisprudence thoroughly, as well upon its legal as on its medical side?

The advocate who is called to the defense of criminals in cases of homicide where the defense of insanity is interposed, in cases of poisoning, and in all that multitude of cases involving a knowledge of Medical Jurisprudence, is but ill equipped where the liberty, or even the life, of his client is in his hands, who has not mastered this department, and what are his chances of success against opponents learned in every branch and technical part of these questions? How is the lawyer competent to cross examine the medical or chemical expert, who in a crowded practice has to read books at night on the details of chemical questions and the field of mental medicine, matched against men who have mastered every detail of the science; and how immeasurably superior is the advocate for his work who has studied all the elementary principles before he took the case at all.

The questions arising in Surrogates' courts, and in a large

class of actions in the civil courts—in life insurance, malpractice of physicians and surgeons, and analagous questions in the active practice of the busy lawyer, make it amazing that the student is not more thoroughly fitted for this portion of his duties by his preliminary education and training, and the fault is wholly that of the bar and our system, and not of the students of the law.

THE JUDICIARY.

But it is upon the bench that ignorance of the principles of this department of the law in its administration, and in the tribunals of justice, both civil and criminal, becomes, or is, most deplorable and reflects greatest discredit upon our system of legal education.

It is a truism, and we need only state the proposition, that a judge who is to administer the law should be versed in its principles.

That judge should be learned in all the learning of Medical Jurisprudence who is the expounder of the principles under which offenses against the law are to be tried, investigated; and punished, and the importance of a proper elementary education in Forensic Medicine in the judges who preside over the administrations of public justice is of the the highest consequence to the successful administration of our judicial system in the discharge of its great duty, to punish real offenders, defend the innocent unjustly accused, and protect the rights and liberties of the citizen.

I do not mean to say that a lawyer who has been elevated to the bench should decline the office because he never opened a volume that treated of Medical Jurisprudence, but he has before him the imperative and immediate duty of commencing *de novo* a study that should have been taught him as a student, with Blackstone and Kent, or as a part of that wider realm of the philosophy and ethics of the law, to enable him to be at all capable to sit in judgment upon

questions and principles of which he was ignorant when he donned the ermine.

The American judiciary have presented, in the recent past, the most conspicuous examples of distinguished ability in grappling with the questions constantly presented to public notice in medico-legal cases requiring judicial interpretation. In the twenty years to which I have alluded there has been great judicial advance and evolution, and the light that has come from the bench has outshone and been more luminous than that from the bar. Take for example the question of the true test of responsibility in cases of homicides committed by the insane. The absurd and false "Right and Wrong Test" that was given at the convocation of the English judges as the *sequella* of the McNaughton case, which has been made the rule in England for half a century. We took it in the American States, not by inheritance, but by force of habit, notwithstanding it was not a judicial opinion pronounced in a case pending in any court of law; not because it was the *obiter dictum* of one but of many judges on abstract propositions; not because of any of the circumstances in English society life and conditions, which no doubt largely influenced the English judges to agree upon such a test, which, it is quite safe to say, had not before that ever been the law of England; but because it was easy and popular and fashionable to accept a doctrine that our English cousins had agreed to accept, and so for nearly half a century this absurd doctrine has stood for the law in English speaking countries; and insane men by the score have gone to the scaffold in England and in American States, convicted by juries under this false and erronious test as charged by judges who followed this *obiter dictum* as if it were an authority.

The emancipation of judicial thought from this error has been due almost wholly to the bench, and with almost a single exception to the American bench.

The man who more than all is entititled to the greatest credit for this bloodless revolution is Mr. Chief Justice Doe, of New Hampshire.

His splendid opinion, which more than twenty years ago reversed the right and wrong test and commenced this emancipation of the American bench, placed New Hampshire in the vanguard of the American States on the right side of this question. I have space in this paper to name only three causes and but two or three of the men who have been most influential in this great judicial revolution.

1. The medical profession from an early day have endorsed the unanswerable logic of Chief Justice Doe's opinion in the New Hampshire cases.

2. An English judge (who, whatever may be said of his conduct in the celebrated poisoning case tried at Liverpool, which created such a sensation at home and abroad,) had attracted the attention of jurists throughout the world by his masterly statement of the falsity of the right and wrong theory as then accepted in England, in his remarkable and incomparable book upon the History of the Criminal Law of England, a work which doubtless led (with his other writings) to his elevation to the English bench—this man more than any Englishman has played a most conspicuous part in this change of judicial ideas.

Sir James Fitz James Stephen may have made mistakes in the Maybrick case, but the value and brilliancy of his life and writings upon this question should lead lawyers and judges to deal leniently with his errors, if such are claimed to have been committed on that trial.

3. There is, perhaps, no more scholarly and splendid argument among all the judicial utterances regarding this absurd doctrine than the opinion of the Supreme Court of Alabama, written by Judge Henderson M. Somerville, in the cases of Parsons *vs.* the State, which summarizes the pro-

gress and growth of this silent evolution of judicial opinion in the intervening years since Judge Doe laid his axe at the root of the tree destined to fall under the sturdy logic of his blows, and while these results have not yet been adopted or concurred in by the judges of all the American States, nor as yet by the English judiciary as a whole, the end has come of the "Right and Wrong Test" in cases of insanity in Great Britian, and, I think, nearly so in America.

In England the law officers of the crown now conduct an inquiry on their own motion in every case of doubt, with skilled experts of the first rank, like Dr. William Orange, selected by the prosecution, frequently before the trial, and it is quite safe to say that from this day onward no insane man will ever again be executed in England.

In the recent case of Duncan, who was acquitted, Mr. Justice Lawrence charged the jury in England in the line of Mr. Justice Doe's opinion, for Duncan well knew the difference between right and wrong. He well knew the nature, character, and consequences of the act he committed, but these would not weigh if he was acting under an insane delusion which dominated his action and which he was powerless to resist or overcome.

The end of the present century will beyond doubt see the end of this doctrine in criminal trials in every American State, and this is due almost wholly to the bench, and to the American bench.

It is to the bench we must look for that growth, that evolution of the principles and application of the law to the corresponding growth in knowledge, and this applies to science, the arts, commerce, and all that marvelous development of our resources that marks out for the race which are to occupy the continent of North America for the next half century, a future best appreciated by Sir William Gladstone in his estimate of the growth and development of this continent, and its

population for only the first half of the century on which we are so soon to enter.

The progress of Medical Jurisprudence in this country in the last twenty years would, if correctly described, fill a paper much larger than the present one. During the past ten years it has been very great, and I may say that within five years last past it has been something prodigous. This is as true of Italy, France, Spain, Germany, and of continental Europe as of the American States.

A new impulse has been given to the study of Medico-Legal Science, quickening and widening the labors of the students of law, and the approaching International Medico-Legal Congress of 1893, (which I hope will be held in Chicago), will doubtless add still greater luster and eclat to these studies, as did the work of the International Medico-Legal Congress of 1889, held in the city of New York, the influence of which has been felt throughout all the nations of the civilized globe.

It is the duty of the bar association of this and every American State, and of the Nation, to co-operate with the resolution adopted at that congress, in hastening the day when every school of either law or medicine within the limits of the American Union should not only have a chair of Medical Jurisprudence, but require that the students of each profession should be able to pass an examination before graduation in this branch of science of such moment to the honor of both the professions of law and of medicine.

THE PRESIDENCY OF THE MEDICO-LEGAL SOCIETY.

To the Members of the Medico-Legal Society:

Considerations of a personal and business nature compelled me to decline a re-election to the chair I have so long filled, with your kind suffrages.

This step was taken in pursuance of a determination formed last year.

The act does not signify any diminution of my interest in either the success of the Medico-Legal Society or in the progress of medical jurisprudence.

The labors incident to perfecting the arrangements for the International Medico-Legal Congress of 1893 require a large portion of my time.

The field occupied by the Medico-Legal Journal is broadening and widening, and constantly increases demands upon me, which I can with difficulty meet.

I am in the active practice of the law in the city of New York, and the time has come when I need to lay down some of the labors devolving upon me in the Medico-Legal Society, at least for the present.

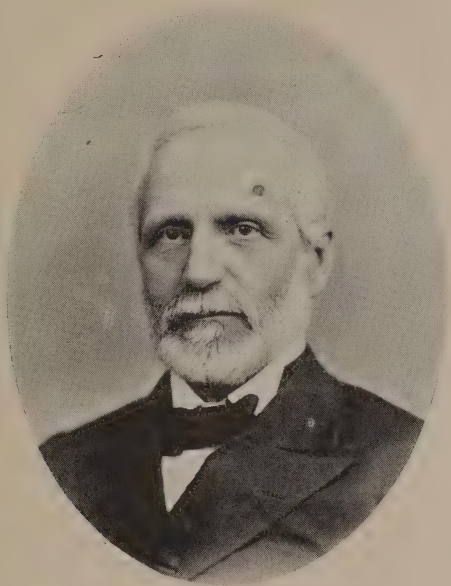
The gentleman who has consented to accept the high position is one every way competent to fill the place with dignity, ability, and credit to the body. Judge Somerville has lately resigned from the bench of the Supreme Court of Alabama to accept a position on the National Board of Customs Appraisers, to which place he has been, although a Democrat, appointed by the President of the United States. His temporary residence will be in the city of New York, and I estem it a great piece of good fortune for the Society, as it is a sincere pleasure to me, to nominate him for the chair I have so long held by your kind indulgence and partiality.

With sincere thanks to you all, who have so splendidly sustained me during my administration, and with earnest hope that the change may be for the welfare of the body and the progress of the cause, I remain,

Very faithfully yours,

CLARK BELL.

New York, Nov., 1891.



HON. HENRY C. PITNEY,
Vice-Chancellor of New Jersey.

MECHANICAL RESTRAINT IN THE CARE AND TREATMENT OF THE INSANE.*

BY CLARK BELL, ESQ.

The report of the Edinburgh meeting certainly conveys the impression that the majority of the speakers approve of the use of restraint. But the practice of some of them scarcely bears out this theoretical expression of opinion. Thus Dr. Clouston applies restraint in surgical cases only, and where the suicidal disposition is exceptionally pronounced. Dr. Turnbull's practice is the same, but he distinctly states that he restricts the appliance in the suicidal cases to night. The form I infer to be always "locked gloves." Dr. Rorie only uses the "gloves" in "extreme cases," but he does not specify what these are. Now I have always understood that even Conolly fully allowed the use of mechanical restraint in surgical cases. I am inclined to think, too, that even though a medical superintendent orders a pair of locked gloves to the hands of a highly suicidal patient at night, the hands being otherwise free, in rare and extreme cases, *but only in such cases*, he may still be claimed among the supporters of non-restraint. But whatever opinion is entertained on this point, there can be no doubt that the position of at least Drs. Yellowlees, Urquhart, and Johnson is very different. As the views expressed by Dr. Yellowlees were fully endorsed by the two other gentlemen, we turn to him for an exposition of his opinions. These were put very definitely before the meeting, He thinks that the use of mechanical restraint is required in four classes of cases. I quote his words: "1. *In cases where the suicidal impulse is intensely strong.* I have no hesitation whatever in putting gloves on these patients for their own safety and the protection of the attendants in charge of them. 2. In cases of extreme and exceptional violence. I think the use of gloves often wise in such cases. Once or twice I have used side-arm dresses, although not for many years. 3. In extremely destructive cases. 4. The helpless and incessantly restless patients, who day and night roll about the room," etc. For the last class he recommends the "protection bed." This, as I saw it many years since in an American asylum, is a deep and narrow box-bed, with a sparred lid or cover. The patient lies on a mattress in the bottom of it, and the lid, which is locked, prevents him from rising into the erect posture.

It seems to me that a question of this kind can only be determined by results. Comparison should be made between asylums in which restraint is used to the extent advocated by Dr. Yellowlees and those where Conolly's principles are still in force—where there is a minimum of restraint. This can be best done by a candid statement of experience based on a long series of years. I shall do so myself, and at the same time invite Dr. Yellowlees or any other gentleman who may concur in his views to put his experience also on record. In order that the comparison may be as

*Continued from page 96.

complete as possible, it seems advisible that the facts should be elicited by answers to a series of questions, as follows:

Q. What is the length of your experience?

A. Three years as assistant, upwards of thirty years as physician-superintendent.

Q. How many patients are in your asylum?

A. On an average for the first 25 years, 203; for the last five years asylum only licensed for 125; always full, often two or three beyond the complement.

Q. What is the average number of admissions?

A. For 21 years, between 1863 and 1883, the average number of admissions annually was 79; from 1884 to 1888, inclusive, 46. Besides, during each of the last twelve years 34 patients were, on an average, admitted on what are known as "certificates of emergency," and accommodated for a period not exceeding three days, when they were removed to other asylums, the parochial asylum being full. These cases, being usually in the acute stage of their illness, add greatly to the responsibilities of the management.

Q. What has been the average proportion of recoveries, calculated on the admissions, say for the last ten years?

A. 47.3 per cent.

Q. Is every kind of case admitted?

A. Yes; there is no selection.

Q. What was the weekly cost of maintenance in your asylum during the last financial year?

A. 8s. ⅜d. This includes repairs and charge for rent.

Q. What is the proportion of day-attendants to patients in your asylum?

A. One to 15.8 patients.

Q. What is your practice in the use of mechanical personal restraint?

A. No strait jacket, or "side dresses," or anything of that kind has ever been used in my whole experience. Two patients suffering from surgical diseases, one 29 and the other 4 years since, were fixed to their beds by sheets and bandages till these ailments were cured, In a surgical case, at present, one glove is in use. In a small number of highly suicidal cases I have ordered locked canvas gloves at night, the hands being otherwise free. How rarely they are prescribed will be seen from the following list for the three years ending 31st December, 1888, which has been prepared from the statements of the attendants, corroborated by my own recollection, as no record was made; April, 1886, gloves one night; May, 1887, gloves one night; May, 1888, gloves two nights. Two were cases of attempted suicide, the third was strongly disposed to suicide.

Q. What is your practice in respect of seclusion?

A. It is seldom used. Five patients were secluded during 1888, the sum of all their seclusions being 31 hours. No one was secluded in 1887.

Q. Do you use guards of any kind for the windows or fires?

A. The only guards in use are two nursery ones, quite open at the top, and simply hooked on at the sides. One is over the fire in a parlor where there are many epileptics, the other in the parlor for the most violent cases. There is no guard of any kind over any of the windows. The

windows are, of course, so fixed on the upper floors that they cannot be opened at the top or bottom above four inches.

Q. How many, if any, homicides have occurred in your experience?

A. None.

Q. How many, if any, suicides have occurred in your experience?

A. None.

Q. How many important injuries to patients have occurred in the course of your experience, in struggles either with attendants or fellow-patients?

A. In ten cases bones were broken, but all were simple fractures. No patient is known to have suffered permanent injury.

Q. How many, if any, attendants have been injured in your experience?

A. Two attendants have each had his shoulder dislocated, but it was easily reduced. These, and one or two temporarily stunning blows on the head, were by far the most serious occurrences. No one was ever permanently injured.

Q. What was the value of the clothing of all kinds destroyed in your asylum last year?

A. 7s. 6d.

Q. What was the value of the glass destroyed in your asylum last year?

A. Not more than 1s.

Q. What have been the usual entries of the Commissioners in their reports respecting the order and quietude of your asylum?

A. Both have been stated to be satisfactory. There is, of course, occasionally some noise and excitement in the department for the acute cases.

These details have been obtained by careful examination of the books of the establishment in the haads of Mr. Laing, the Governor of the Asylum and Poorhouse, to whom I am indebted for the trouble he has taken in this inquiry, as well as for his co-operation in the management, especially during late years. The results I believe to be creditable to the principle of non-restraint. I was trained in its practice by my late respected master and friend, Dr. Alex. Macintosh, of Gartnavel Asylum, and I have not yet seen any reason to modify my high appreciation of its wisdom and value. However, we must wait till those who favor the more extended use of restraint tell us their results before determining the question. Meanwhile, any who are in doubt may refrain from arriving at a conclusion.

I may be asked: What are your methods of treatment? I answer: "Nothing special, simply careful individualization—studying and applying the indications of management and treatment in each case—work, outdoor exercise, careful dieting, amusements, and medicinal treatment." In reference to the last of these, I refuse to admit that when a patient is soothed by medicines fitted to allay the irritability of a brain in a state of disease, I am employing "chemical restraint," at least in the offensive sense attached to the expression by some, and especially by those who favor mechanical restraint.

I have only further to express my regret that in this communication I

have been obliged to name gentlemen whom I count among my personal friends. But all personal considerations must be sunk in view of the importance of the question under consideration. Especially do I regret that I have been constrained to refer particularly to Dr. Yellowlees. It is simply because he initiated and took by far the most important part in the discussion at Edinburgh, and is at present the leader in Scotland of what I believe to be a distinctly retrograde movement. He would do well to remember when advocating the cause of restraint or about to order the application of the "side-arm dresses" or the use of the "protection bed," that there is a plate on the foundation-stone of Gartnavel Asylum bearing an inscription which declares that the asylum is erected on the principle of "EMPLOYING NO MECHANICAL, PERSONAL, RESTRAINT IN THE TREATMENT OF THE PATIENTS."

For the present this will give an introduction to the English discussion of 1888, to which we may again refer. But meanwhile it might be well to see what the practice and sentiment has been in English asylums, where the discussion arose, to which I shall cite a few leading British superintendents.

Dr. CAMPBELL, superintendent of the insane hospital for Cumberland and Westmoreland, in his report for 1888, published in the July number of the *Journal of Mental Science*, p. 248, states:

"That during the year he had two such exceptional patients; that he had to seclude one, a patient who was so powerful and violent for several periods, and the other a feeble melancholiac, who made such persistent and varied attempts to kill himself that he used mechanical restraint for a long period, and who even then bit off his lower lip as far as he could reach it with his teeth."

Dr. Campbell says of the latter:

"*This is only the second patient whom I have had to restrain for other than surgical reasons during the past fifteen years.*"

The experience of Dr. HOWDEN, of the insane asylum at Montrose, who has had a very large and varied experience, as reported by him and cited in the October *Journal of Mental Science*, 1889, p. 429, is of great value in such a discussion as the present.

Dr. Howden says:

"It is better, I believe, as a rule, to treat excitement by good hygienic conditions, good food, unpolluted air, suitable clothing, abundant exer-

cise, and even hard work, combined with mental occupation and distraction, than to attempt to repress or conserve energy, whether by mechanical or therapeutic restraint.

"A day's labor, whether on the farm, in the washing house, or scampering on the grass, is a better hypnotic than any narcotic drug with which I am acquainted.

"While expressing this opinion, I am far from ignoring the value of narcotics and of the necessity of employing mechanical restraint in certain cases. * * * * *

"While maintaining perfect freedom of action, however, unaffected alike by fashion and public prejudice, we must not forget the errors into which our forefathers fell, through prejudice and superstition, though they were probably actuated by motives as humane as we are, nor lose sight of the great principle of non-restraint, (falsely so called,) established by Pinel, Tuke, Hill, Conolly, and others, which has revolutionized the treatment of the insane, so that the modern asylum has the character and aims of a hospital and a sanitarium, rather than a prison or a poor-house."

Dr. Howden adds, referring to the criticisms made in the public press regarding the alleged improper use of restraints in Bethlehem Hospital the year before, and the defense of the system by Dr. Yellowlees before the British Medico-Psychological Association, which is quoted by Dr. Yellowlees in reply, the following:

"In view of the discussion which took place last year in medical circles and in the public press on the use of mechanical restraint in the treatment of the insane, it may not be amiss to place on record a summary of my own practice during a period of thirty years, as a contribution to the subject. In doing so I shall consider seclusion as well as mechanical restraint, 1st, because they are often employed vicariously and conjointly, and, 2d, because I consider that seclusion in a dark room during the day is often a much more objectionable form of restraint than the use of mechanical means for restraining merely the muscles and the hands.

"Well, during the past thirty years 4060 cases have been under treatment. Of these, 29 men and 26 women have been subjected to the restraint of the strait jacket.

"The reason for employing mechanical restraint with these 55 persons was, in five cases, to prevent injury to the patient or others during attacks of exceptionally violent mania; in nine cases, to prevent self-mutilation and suicide; while, in the remaining forty-one, it was used to prevent the removal by the patient of dressings in surgical treatment."

Dr. Howden also adds, regarding the use of locked gloves under the Scotch system of "Register of Restraint and Seclusion to prevent babies from sucking their thumbs and

patients from pulling out their hair or picking their faces or head with their nails, that, searching, he finds—

"In the old daily register, however, there was, and I find entries of, the employment of locked gloves in the cases of three men and one woman, for a total period for the four of 150 hours, during 20 years."

As to seclusion, the doctor makes the following statement, and these reports are of great importance to show the almost entire abolition of mechanical restraint, and seclusion as well, which places the question of its abuse wholly out of question:

"As to seclusion, I find that the number of persons who have been locked into a single bed room during the day in thirty years, was in all 106, of whom 38 were men and 68 women. During the first decennial period, from 1859 to 1869, there were under treatment 1740; of whom six were restrained, and ninety-one secluded. During the second decennial period, from 1869 to 1879, there were under treatment, 1526; of whom seventeen were under restraint, and seven were secluded. During the third decennial period, from 1879 to 1889, there were under treatment 1683; of whom thirty-two were restrained, and eight were secluded."

Dr. Theodore Diller was entitled to reply to the discussion of his paper the evening it was read, and did so orally. At my request he submitted a revise of his remarks, which is as follows:

Mr. President:

Let me attempt to analyze and classify the expressions of opinion which we have heard.

I think all who have spoken are agreed upon certain points, viz: That if mechanical restraint is ever applied, it ought to be used only by medical men; that it must never be applied to punish patients, to keep them quiet, or to save trouble for officers or attendants.

The various differences of opinion might be classified under three heads, as exemplified in the practice and views of Drs. Bryce, Pilgrim, and Godding, each of whom has a large number of patients under his care.

1. Dr. Bryce has not restrained a single patient for many years. He admits that cases may occur where restraint would be for the highest good of the patients, but he would not restrain such patients principally or wholly because he holds that the possible benefits which might accrue to those so restrained would be more than counterbalanced by certain baneful effects or impressions produced upon themselves or upon other patients by the restraint.

2. Dr. Pilgrim has not restrained a single patient for a long time, but admits that cases might arise where this measure would be advisable, and would not hesitate to apply restraint in such cases.

3. Dr. Godding lays stress upon the doctrine, taught by Butler, that an insane person requires individual treatment, just as an individual sick from any other disease. In carrying out this idea, he believes that he has served the best interests of certain of his patients by mechanically restraining them in a proper apparatus at certain times.

The burden of my argument will be an endeavor to show that, of these three views and methods of practice that of Dr. Godding is the correct one.

Between the views of Dr. Bryce and those of Dr. Pilgrim, neither of whom restrains patients, there is a great and vital difference. Both these gentlemen admit that patients might be placed under their care whose interests would be better served if they were mechanically restrained than if they were not so restrained. Dr. Bryce *would not*, but Dr. Pilgrim *would* restrain such patients, the former giving as the reason for his views that the few ought to suffer for the good of the many.

There is also a difference between the views and practice of Dr. Pilgrim and those of Dr. Godding. The first-named gentleman, as a matter of practice, has not used restraint; the last-named gentleman applies mechanical restraint to certain of his patients. Each of these gentlemen believes he is best serving the interests of each and of all his patients with regard to his course of procedure in this matter of mechanical restraint.

From this review I think it must be apparent to all that, although Dr. Pilgrim's practice is substantially in accord with that of Dr. Bryce, yet there is far more harmony in views as to the principles involved, between Dr. Pilgrim, who does not restrain, and Dr. Godding, who does restrain, than there is between Dr. Pilgrim and Dr. Bryce.

I am glad that Dr. Bryce has expressed himself so clearly. Certainly we know just where he stands. His views, I am glad to find, are shared by no one who has been heard to-night. I must say that I regard these views not only as extreme, but as containing in them great possibilities of danger; and I cannot help feeling that Dr. Bryce is moved to hold them largely for sentimental reasons. Evidently he takes a great pride in the showing his asylum has made in the past ten years. Even if an extraordinary number of difficult and trying cases were to be brought to him for treatment he would still carry out his non-restraint policy. Why? Because, I fear, "non-restraint" has become a watch-word or a dogma with him; because he would not care to have a blot on his unbroken record of "absolute non-restraint."

There is in London (and, if I mistake not, in Chicago also,) a so-called "temperance hospital," which was founded and is maintained by those who believe that alcohol should never be used as a therapeutic agent; that its use is always wrong; that it is an evil *per se*; that it should never be given to any person, sick or well. In short, they contend that any disease is better treated *without* than *with* alcohol. This hospital is, I believe, well conducted generally. Its annual report makes a seemingly excellent showing, yet, without knowing anything as to the details of its workings, I make bold to opine that certain of the patients treated within its walls would have been better treated had they received appropriate amounts of alcohol. It seems to me that this boycotting of a certain means of treatment by this temperance hospital which is sanctioned by the over-whelm-

ing sanction of the medical profession, is quite analagous to Dr. Bryce's boycott of another measure of treatment in the hospital of which he has charge. In each of these hospitals a certain means of treatment which is sanctioned by an overwhelming consensus of opinion of the profession is proscribed, largely or wholly for sentimental reasons.

Aside from Dr. Bryce's views, the expressions of opinion which we have heard seem to me to be pretty evenly divided between those who share Dr. Pilgrim's views and those who share Dr. Godding's views. This difference I believe is not irreconcilable—for it is a difference of measure or amount only, and not of kind or principle. I am quite willing to subscribe to Dr. Chapin's view that it should be the endeavor of all physicians who have charge of insane patients to constantly endeavor to use less and less restraint, but never to accept "non-restraint" as a dogma.

It has often been said that restraint is a dangerous thing; that it is too powerful and dangerous a measure to be placed even in the hands of asylum superintendents—much less in the hands of assistant physicians, supervisors, or attendants; that there is constant danger of its over-use, i. e., abuse; that in spite of all that can be done to prevent, attendants will fall into the way of using it without orders from physicians; that restrained patients exert a pernicious moral influence upon other patients about them; that a restrained patient feels a terrible sense of degradation; that almost always other measures of treatment are better or at least just as good.

The asylum superintendent has power over his patients, down to the smallest details of their lives. He must necessarily come in comflict with their wishes or inclinations many times and in many respects. He must, at times, refuse one patient his jewelry; another, his shoes; another, linen table cloths and china plates: another, he keeps in-doors; another, he holds firmly on a mattress and forcibly injects poisonous drugs into his tissues or pumps fluid nourishment into his stomach against the patient's earnest protest; he may cause another to be bathed against his will or secluded in a room. Any or all of the above measures may be used by the superintendent or assistant physicians. They are all measures of restraint, if you please. Certainly they may be called means of treatment (or therapeutic measures). No one gainsays the propriety of their use in appropriate cases. But, mark you, one other measure of restraint, one other means of treatment—mechanical restraint—is wrong *per se*; it is such a dangerous thing in itself that it cannot be trusted in the hands of the superintendent, who presumably is strong enough and wise enough and humane enough to rightly use all these other measures of restraint or means of treatment I have mentioned and many others. Surely this is a *reductio ad absurdum.*

The correct position seems to me to be this: That mechanical restraint is a measure of treatment, a remedy of peculiar value—*one which, in certain cases, cannot be supplanted by any other from which an equally good result can be obtained.* It is a dangerous remedy; the appliances for administering it should be locked up as safely as the hyoscine or chloral, and no one, other than the physician, should administer it any more than he should these other two dangerous remedies. Like all other powerful remedies, such as morphia, chloral, and alcohol, restraint has been too

much used and abused by some physicians. The abuse of opium in physicians' hands has wrought far greater harm than has the abuse of mechanical restraint. Yet, in spite of this fact, the use of opium should not fall into complete desuetude—no more should mechanical restraint.

In treating his patient, a physician who has charge of the insane ought to use therapeutic measures as a skilled mechanic uses special tools—use the right remedies for any given disease and be ever ready to withdraw any measures and add others, as may be called for by the varying manifestations of the disease. At one time it will be a duck dress; at another, 1-100 grain of hyoscene; at another, seclusion; at another, piano-music or dramatic entertainment; at another, restraint; at another, open-air walks; at another, farm work. What would be thought of the carpenter who had a confessedly useful and effective tool and yet would not trust himself to use it? Yet this is the position of those who hold to "absolute non-restraint" as a dogma.

It has been said that the presence of a restrained patient has a baneful effect upon the other patients about him. It must be admitted that there is some truth in this statement. Yet, after all, there is no very great force to this objection, for a restrained patient would, of course, not be in the same ward with mild patients or convalescents, but would naturally be placed in a ward containing the violent or the chronic insane by whom the niceties are little or not at all appreciated; and in these wards other sights may be witnessed (epileptic fits, e. g.), which would have quite as much or more deleterious effect upon the patients in the ward than the sight of a restrained patient.

Now, as to the sense of degradation which restrained patients themselves experience. In some patients (e. g. dements), this feeling is *nil*. In others, where the feeling is experienced, likely the patients do not rebel against restraint as a personal indignity nearly so much as being compelled to receive forced feedings or hypodermic injections.

Very often, perhaps generally, it is better to seclude a patient than to restrain him. But in some cases seclusion cannot be used in lieu of restraint, if the best interests of the patient would be served. will mention a few illustrative hypothetical cases. A chronic maniac suffers from a fracture of the humerus, and will not permit the surgical dressing to remain on his arm. A paranoic, under delusive promptings, makes persistent efforts to pull out his rectum or castrate himself; an epileptic, while in the post-epileptic state constantly picks his arms, producing horrible raw surfaces; a violently suicidal patient makes not only persistent attempts to take his life, but also constantly tries to injure or mutilate himself; a patient suffering from acute delirious mania (typhomania), would use up his little remaining strength, all of which is precious to him, in order to carry him through the crisis, by unceasing muscular activity. In such cases as these I think Drs. Meredith, Chapin, Hill, Trowbridge, or Godding would use mechanical restraint. In such cases I, myself, have used it.

One matter more, and I have done. Dr. Blumer (the successor of the honored Gray, of Utica, who used restraint as needed), says that he does not restrain patients, and immediately adds, with almost a "therefore," that this is a closed question; that my letter is simply useless verbiage;

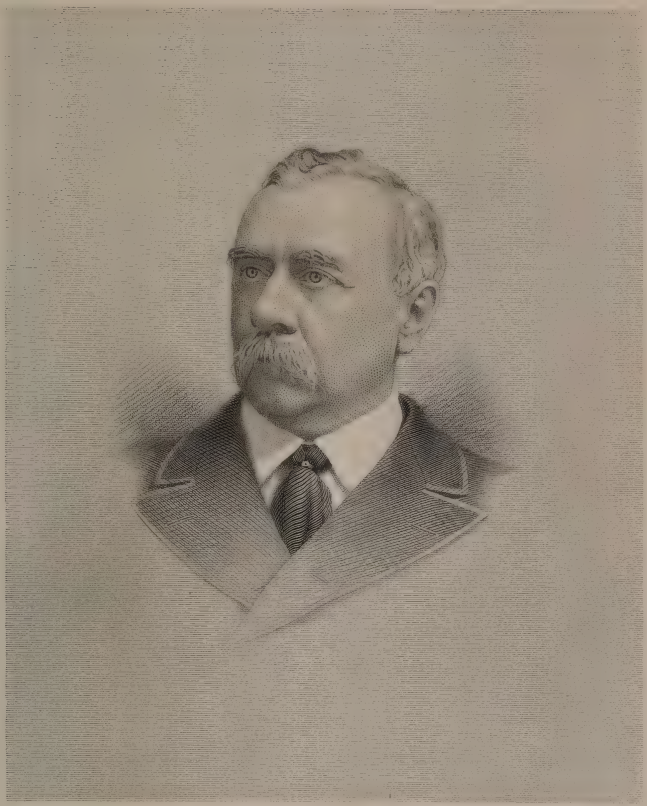
that what I have said has been said very, very often. These are indeed strange views, especially coming from the source whence they do. I think Dr. Blumer's views will find no responsive echo among the members of the Medico-Legal Society, composed of men and women who recognize the great principal that no question is a closed question upon which men honestly differ. I am quite as well aware as Dr. Blumer that the question has been many, many times discussed. I also know—perhaps *better* than he—that it will be many times yet discussed before it will, in truth, become a "closed question." If I am not endowed with but little eloquence as compared with Dr. Blumer, I feel sure that my honest attempt to express my opinion upon this subject will at least be respected, while Dr. Blumer's attempt to dispose of me and of my views with a sneer will be held in just and merited contempt, and, I trust, their author charitably pitied. This would be true, even if I were in a hopeless minority. But it is all the more true when you consider the large number and the great eminence of the men who hold the views for which I have contended in this discussion. These views, it was found, were held by nearly every man who attended the large meeting of British alienists held in Edinburgh so recently as 1899. The men whose views are essentially the same as my own are too numerous to mention, nor could I call to mind a tenth of them just at this time. But among them are the great Yellowlees, Savage, Godding, Trowbridge, Chapin, Meredith, Hughes, Prince, Curwen, Hill, Talcott, Lyon, Parker, Moncure, and Dewey.

In closing I wish to thank Mr. Clark Bell for opening this discussion on so broad a scale, and to express my firm belief that distinct good will come from it. It will be better known hereafter than it ever was before, that the overwhelming consensus of opinion of alienists in the United States is that inflexible adhesion to the rule of absolute non-restraint as a dogma is a short-sighted, illogical, and unscientific policy—one which ought not and cannot be maintained.

Dr. Alex. Robertson, M. D., F. F. P. P. and S., physician to the Royal Infirmary and City Parochial Asylum at Glasgow, to whom I lately wrote for his views upon the subject, but who had not seen the prior discussion, responded as follows:

I have pleasure in complying with your invitation to express my views on the use of mechanical restraint in the treatment of the insane. You mention that there has been a correspondence on the subject in the Medico-Legal Journal, and that you had posted a copy of the Journal containing it to my address. I regret, however, that it has not come to hand, and I therefore write without knowledge of what has been stated by those gentlemen who have already taken part in the discussion.

I more willingly accede to your wish from the fact that in the year 1868 I visited a large number of asylums in the United States and Canada, and then became acquainted both with their merits and demerits. The "notes" of my observations were published in the English *Journal of Mental*



From a Photo. by Hill, Elizabeth, N.J.

ROBERT STOCKTON GREEN.

GOVERNOR OF NEW JERSEY.

Science for April, 1869, and I added to them as an appendix a short abstract of the late Dr. Willard's report on the condition of the insane poor in the workhouses of the State of New York. At that time their care and treatment in all respects, in most cases, were very bad in these establishments. Since my visit of that year I know that great improvements have been made in the provisions for that unfortunate section of the community, both by the transference of many of them to new and well appointed asylums, and also by the adoption of more kindly and humane methods of treatment.

Among the reforms which have brought the asylums of America to the front rank of such institutions throughout the world—at least in my opinion—is the almost complete disuse in many of them of the instruments of restraint. However, I gather from your letter that in some they are still largely used, and that those medical superintendents who employ them fortify their position by quoting the opinions recorded in favor of restraint by certain British physicians, notably Dr. Savage in England and Dr. Yellowlees in Scotland.

It was with a mixed feeling of surprise and regret that about three years ago I learned that these gentlemen, physicians in the land of Tuke and Connolly, advocated so retrograde a measure and carried it out in their practice. Their action has, I believe, been prejudicial to the best interests of the insane in this country, and, as they might have anticipated, has so far, but I trust only temporarily, checked the movement for the further amelioration of their condition in the New World.

My own acquaintance with the fact that mechanical restraint was somewhat freely used in some of the asylums of this country was derived from a report of a meeting of Scotch asylum Superintendents in November 1888, which was published in the *Journal of Mental Science.* Dr. Yellowlees, of the Glasgow Royal Asylum, took the leading part in the discussion and spoke strongly in favor of the use of mechanical restraint, defining four classes of patients to whom he considered its application was proper and legitimate. Though there was a general theoretical concurrence in these views by other speakers, I was glad to find that some of the more experienced in their practice really exceeded only by a very little the sanction of Connolly, the great apostle of the non-restraint system. Thus Dr. Clouston, who has charge of the most important of our Scotch Asylums, stated that he used restraint only in surgical cases and where the suicidal disposition is exceptionally pronounced. I was not present at the meeting, but on perusing the report of it I felt that the practice commended by Dr. Yellowlees more especially, was so opposed to my own, and was so calculated to affect injuriously the treatment of the insane that it was incumbent on me to record the result of my long experience and the conclusions at which I had arrived. Accordingly I drew out a statement in detail, which was published in the *Journal of Mental Science* for April, 1889.

In the exposition of my position on the question I cannot do better than give a short résumé of that paper. It appeared to me that in estimating the value of mechanical restraint the most exact and convincing test was that of results. Therefore, in the form of question and answer, I submitted all my experience as physician-superintendent of an asylum extending over

a period of thirty years, which in any way bore on the subject, without any reserve. An idea of the method pursued will be formed from the following quotations: (The letter of Dr. Robertson contains the questions and answers contained in the paper published in the *Journal of Mental Science*, which is published heretofore by me.)

In this way in addition to these points, I showed the following as the results of my whole *whole experience*:

1. Though there are no guards of any kind for the windows or fires, except two nursery ones open at the top and simply hooked on, the value of the glass destroyed during the whole of "last year" (1888) was only one shilling, and of clothing of all kinds seven shillings and six pence.

2. The proportion of recoveries calculated on the admissions for the last ten years was 47.3 per cent.

3 The proportion of attendants to patients was one to 15.8. (This is less than in asylums where restraint is somewhat freely used.)

4. That ten patients had suffered from broken bones, but all were simple fractures. No patient sustained permanent injury.

5. *There has never been either suicide or homicide.* (This still holds true, 2d April, 1892.)

6. That no attendant has been permanently injured. Though two have sustained dislocation of the shoulder, it was easily reduced. These and one or two temporarily stunning blows on the head were by far the most serious occurrences.

It will be evident that I cannot claim to have absolutely abolished mechanical restraint in my practice. Still the fact that it was used only in the form of locked and padded canvas gloves in a few intensely suicidal cases, and that several years sometimes passed without their being once applied, shows a near approach to complete non-restraint.

After detailing my experience as above explained, I invited any of the advocates of the freer use of restraint to record theirs in the same way. No one, however, up to the present time, has chosen to do so. Dr. Yellowlees certainly stated that for a number of years there had been no suicide in the asylum of which he has charge. But this had reference only to one of the many points referred to in my record, and even in regard to it his statement was restricted to a part of his experience. It seems a legitimate conclusion that on all other points, as well as on the remaining part of his experience in the one he adduced, he felt his position to be a weak one; in fact that, with the free use of restraint which he recommends, he was unable to submit so favorable statistics as I have done with all but complete non-restraint.

Possibly some of my American confrères who favor restraint may accept my friendly challenge. Should any one submit a better record than I have published, those who, like myself, adhere, or rather all but adhere, to the methods of Tuke and Connolly, may then reconsider their position. Meanwhile, even our opponents on this question must be constrained to admit that if the results of non-restraint are only equal to those of restraint the palm rests with the former. *A fortiori* if it is clear that the results on all points are much more satisfactory, then surely there is strong argument against the harsh and forbidding methods of restraint.

In June, 1883, Dr. ALICE BENNETT, then, as now, medical superintendent of the State hospital for the insane at Norristown, Pa., was requested by me to read a paper before the Medico-Legal Society of New York, upon the subject of "Mechanical Restraint in the Treatment of the Insane."

She had for a few years at that time introduced the doctrine of a total abolition of the use of mechanical restraint, and was one of the pioneers in the early movement in American asylums, some ten years ago, to make an earnest effort to see if it could be wholly dispensed with and still leave the condition of the inmates improved—a proposition that so few superintendents in the United States believed possible.

Her paper was read, and was published in the first volume of this journal, and, from my standpoint, exercised an enormous influence among superintendents of asylums, in inducing others to make the effort.

The asylum had a large population, drawn from all classes, and the effort which was then successful demonstrated that at least this institution had progressed and prospered without any recourse to mechanical restraint at all.

I can but feel that in this discussion some extracts from that paper will be felt by all earnest inquirers after the truth, in its application to the practicle side of the question, to be valuable, timely, and deeply interesting. The whole paper is entitled, perhaps, to be included, but the scope of the article limits me to a few extracts. Dr. Bennett says:

I will ask leave to pass over the history of former discussions on this subject, interesting though they be, and speak to you only out of my own experience of what I have seen and known.

In a service of three years (lacking one month) in the State Hospital for the Insane of the Southeastern District of Pennsylvania, something over eight hundred female patients have been under observation. This experience, while confessedly short and inadequate, is yet believed to cover the usual variety of phases of insanity, and more than the usual proportion of the chronic, turbulent class so often the subjects of mechanical restraint. From the county alms-houses, where cases had been ac-

cumulating during the years when this District of Pennsylvania had no adequate provision for her insane, came a considerable number who had been habitually, for months—some even for years—subjected to some form of mechanical restraint. With a new and untried organization, inexperienced officers and subordinates—with the general barrenness incident to a new hospital, and the almost total absence of the usual devices for attracting, diverting, and occupying the large numbers that were literally poured into the hospital from all sides, it is believed that the conditions have been such as to offer a test more than ordinarily severe.

During the first fifteen months some little restraint was used experimentally. Since October, 1881, none has been employed. The results of the first three months' experience were given in the first official report of the Department for Women to the Board of Trustees, as follows: "Nothing is more certain than that mechanical restraint is incompatible with 'moral treatment,' and that resort to it destroys at once any personal influence that may be brought to bear. Whether a confession of fear on the part of the attendant, or a substitute for the latter's vigilance, it can hardly fail to lessen the bond of respect between patient and attendant, which it is essential to preserve."

And, again, a year later: "Extraordinary precautions often suggest or increase the 'violence' they are intended to prevent. Freedom of action is a wonderful tranquilizer. . . . When to these restless, rebellious natures leather bands and canvas jackets say 'you shall not,' the antagonistic spirit responds at once to the stimulus. The impulse to do the thing forbidden is likely to disappear with the removal of the apparatus which suggested it, and if judicious moral influences are brought to bear, will not return in any uncontrollable form."

Briefly formulated, my convictions, based upon experience, are as follows:

1. Mechanical restraint does *not*, (in the majority of cases,) "restrain."

[It is not easy, by any mechanical appliance, to so confine a person that he cannot accomplish something by muscular effort, and energy, checked in one direction, finds some other outlet, with the added impetus of resentment and desire for revenge.]

2. It *does* exert a positive influence for evil.

3. It is infinitely *easier*, *safer*, and *cheaper* to do without it.

From every point of view, then, in the interests of the insane themselves, in the interests of their keepers, and in the interests of public economy and of humanity at large, mechanical restraint should be abolished.

But we are again told authoritatively: "These principles have been settled; mechanical restraint *is* inadmissible in itself; it is to be used only when necessary and indispensible for exceptional cases."

Just what these "exceptional" cases are is not laid down; I have not seen them, and I need not tell you that this rule of necessity is apt to become a sliding-scale, adjusting itself to the convenience or caprice of the hour until the "exceptional" cases are likely to cease to be exceptional. Even admitting, (which I am far from doing,) the existence of the hypothetical, occasional case which may be benefited by restraint, I would

still hold fast to the principle of the "greatest good to the greatest number," and would unequivocally banish an agent which so certainly becomes a centre of evil influence.

And again:

You will agree that it is a not uncommon trait of our common human nature to want what is beyond our reach—to desire to do the thing forbidden. Especially is this true where the higher control of reason and of will is undeveloped, as in children, or in abeyance, as in the insane, who frequently are only "children of a larger growth."

Trust begets trust-worthiness; and the reverse is no less true.

Now if a person, (more or less insane, as the case may be,) sees every provision made for his conducting himself like a wild beast, I do not doubt that, in nine cases out of ten, he will proceed to justify that expectation. If, in addition to windows barred, screened, and locked, double doors, (perhaps even with the small sliding windows so suggestive,) heavy immovable furniture—surroundings calculated to arouse an antagonistic spirit—he is perhaps seized upon, and either because of what he has done, or of what some one fears he may do, his personal liberty is still further abridged by some of the many ingenious forms of mechanical restraint, what wonder that his evil passions rise and that he proceeds to do all the damage possible, and I assure you he can do a great deal; if his hands are confined he can kick, if his feet, he can bite, and both with a ferocity and accuracy of aim most undesirable.

You can easily see how such a case goes on from bad to worse. The restraint continues to excite and intensify the "violence," which, progressively increasing, becomes each day a stronger "justification" of the restraint, and so have been manufactured those notoriously desperate cases which are pointed out to curious visitors as having been "chained" or "caged" for years. Examples of these are, happily, less common than formerly, but the county alms-houses still furnish a few, and one such has come under my care even during the past year.

One who has watched the transformation of cases like these under the influence of personal liberty and rational methods of treatment can but marvel that a principle so plain, so evidently founded in the commonest laws of our common nature, should admit of discussion.

In support of the statement that it is easier and safer to control the insane by moral than by mechanical means, perhaps I cannot do better than to give you notes of some individual cases that have occurred in my experience:

Case 1 was introduced to us as a most dangerous character, especially renowned as a "kicker;" had been continuously restrained in another hospital by a leather "muff" for six months preceding admission. The propensity to kick everything and everybody within reach being a natural consequence of the confinement of her hands, it followed that the simple removal of the "muff" made her at once a less dangerous companion. By systematic, firm, yet kind, discipline, bad habits were corrected, self-respect stimulated, and she has become a tractable, working patient, although belonging to the hopelessly chronic class.

Case 2, an immensely powerful, muscular German woman, one of the first admissions to the hospital, brought with her a reputation for ferocity calculated to strike terror to the soul of the uninitiated. For months she had been chained in a dungeon, the limited space of which scarcely permitted her to lie at full length on her heap of straw. Through the grating of the heavy door was thrust the food, which she must eat as best she could, with hands confined. Here, also, the curious were privileged to gaze upon this monster in human form, who, with her hair long ago torn out by her own hands, and her expression of savage distrust and defiance, might well seem something less than human. A year ago I introduced a gentleman interested in public charities to this same woman, standing in the door of her neat little room, which she invited us to enter and inspect. Her thick gray curls surrounded a face strongly-marked and resolute, yet not unpleasant to look upon, and her general appearance was such as to attract a stranger at once.

She was led to speak of her former experience, "And *why* were you locked up in a dungeon?" asked my friend. "Because ——" but I can not repeat her language. At the mere recollection, a tithe of her old fury was aroused, and her mein hinted at the total annihilation of anybody in her path.

"But why did you have those feelings there and not here?" persisted the visitor.

"*Because they locked me up.* Would *you* like to be locked up like a beast?" came the answer, with an emphasis which was a whole sermon in itself. This patient also belongs to the chronic class, and is probably a "life-member" of our little community, but she is a busy worker, she has a quick, ready intelligence and warm affections, and her life is not altogether an unhappy one.

Case 3, on admission, had worn the camisole for a length of time. The proficiency this woman had attained with her feet was marvellous. To open and shut windows and make, (but more often to unmake,) beds was easy and her mischievous propensities knew no bounds. This case is a good example of the inefficiency of restraint. She has now largely recovered from her mischievous and destructive tendencies, but she, also, is a chronic, incurable case.

Case 4, a young girl of prepossessing appearance, transferred from a county almshouse, had been restrained, as to her hands, for several months previous to admission. "Too violent for women to manage," was the verdict of the man who had had exclusive charge of her during that time. Of this patient I have nothing to say, except that, from the time wristlets were removed, while she lived, (she died of phthisis two years later,) no reason appeared for such restraint. Hopelessly demented, she was yet tractable, grateful for kindness, and kissed the hands of the nurse who liberated her.

Less than a year ago a fire occurred in a county almshouse in the interior of Pennsylvania, and eighteen female patients were transferred to the hospital at Norristown. Of these eighteen, ten came in camisoles, not put on for temporary convenience only, as was testified by their

cramped white fingers, which some of them seemed to have forgotton how to use and only learned again by gradual steps.

Of these ten, one had her feet also shackled. Even with these precautions the two men who had her in charge were extremely careful, and cautioned others not to go near, saying "she bites." Blood-curdling recitals of the fearful deeds she had done, and would still do if left unbound, as in the previous cases, to me not wanting.

I first saw this woman on the second day after admission, (being away from home at the time of the unexpected transfer,) and was struck by her expression of suspicion and distrust. When asked to shake hands, she looked at me some seconds inquiringly, then slowly assented.

I have never witnessed anything more remarkable than the change that occurred in the expression of that woman's face in the days that followed. It is a matter for regret that they were not photographed. It is scarcely exaggerating to say that no ordinary observer would have recognized her for the same person. An epileptic for years, her mind was hopelessly impaired, but she manifested a childlike affection and gratitude toward all who showed her any kindness, and a cheerful smile became habitual. That less than a week was sufficient to effect this change must be considered evidence of unusual native gentleness and susceptibility to kindness.

The above are not exceptional cases selected for the occasion. All patients entering the hospital under restraint are at once released, and in no case has this treatment failed of good result. But I promised that it should be not only easier and safer, but also cheaper, to dispense with mechanical restraint. I mean not only that there will probably be less actual destruction of property under the tranquilizing influence of personal liberty, (the restraining apparatus itself is also costly,) but in a much larger sense. When this principle of treatment shall be understood and extended as it can be, we shall depend less upon costly external barriers. Buildings constructed upon the simplest plan will be amply sufficient if they are pervaded by the right atmosphere. Probably two-thirds of the insane in our hospitals could be kept without bars and locks.

And she concludes an admirable paper as follows:

Much depends upon the attendants, upon whom will devolve the carrying into practice of the spirit of the superintendent. They must be without preconceived notions, and should be intelligently interested in the principles they are carrying out. The insane must be made to feel that someone *cares* for them, and no counterfeit appearance of feeling, however plausible, will do. I do not believe the patient can be found so demented as to be insensible to the voice of kindness, and the influence of affection upon some of them is really wonderful.

Self-respect must be stimulated by respectful treatment, and by encouraging attention to personal habits of neatnest, dress, etc. Perhaps this latter is more important among women. I recall now one patient who had been in habitual seclusion for a length of time, demented to a degree that rendered her apparently incapable of receiving an idea. Taken out of seclusion by interested attendants, she was found to be much influenced

by personal adornment. A white apron and necktie seemed to exercise a restraining influence not inferior to that of a camisole, and she was so much engaged in the contemplation of herself as to forget to do any worse mischief. I have often remarked a peculiarly tranquil atmosphere on Sunday morning, when the "best dress" has been universally donned. Employment for restless hands is, of course, important. This is especially useful in the case of those possessed of destructive tendencies. One old lady I remember, who was completely cured of a destructive habit of picking at her clothing by being set at work picking over hair for pillows, which she did well and apparently enjoyed.

I have found rocking-chairs to exert a sedative influence upon many, especially upon the excitable and those called "violent." In one patient this proved an excellent substitute for the amusement of tearing her dress.

Out of door exercise is often excellent treatment for excited patients, aside from the tonic influence of fresh air and sunshine. [And here I can not forbear digressing to say that I can find no place, nor use, for "airing-courts." In my experience the patients who go out oftenest, for the longest distances, and the longest time, are generally those from the most excited wards, and no class so much enjoys the freedom of the country.]

One thought comes to me in closing: There is no more inexorable law, nor one of wider application, than that "action and reaction are equal," each to each. A wrong done operates not only upon the receiver, but upon the doer also, and equally. Who will undertake to estimate the influence upon ourselves and upon the moral tone of the community at large, reacting from a system of repression operating upon a large class of our fellow men; a system calculated to crush out their feeble possibilities for good, to foster their baser instincts, and under which they have often sunk to depths of degradation and misery almost inconceivable?

Dr. WALTER S. FLEMING is medical superintendent of the King's County Insane Asylum at Flatbush, Long Island. His views are as follows:

KINGS' COUNTY INSANE ASYLUM, FLATBUSH, L. I.,
May 4, 1892.

CLARK BELL, ESQ., Secretary Medico-Legal Society, New York.

Dear Sir:—Replying to your communication of April 30th, would say that I think there is a happy medium, which is preferable. Mechanical restraint is beneficial in surgical cases to prevent the removal of dressings, displacement of fractures, etc.; in other cases to prevent self-mutilation and destructive tendencies. In the great majority of cases, however, proper exercise, employment, amusements, change of attendants and surroundings, will render it unnecessary.

I think that restraint by attendants renders a patient more irritable, and that medicinal restraint, if used to any great extent, materially impairs the patient's physical condition.

Yours very truly,

WALTER S. FLEMING.

Dr. I. O. TRACY, assistant superintendent of the same institution, replies as follows:

KINGS COUNTY INSANE ASYLUM,
FLATBUSH, L. I., May 6, 1892.

CLARK BELL, ESQ., Editor of the MEDICO-LEGAL JOURNAL, No. 57 Broadway, New York City.

Dear Sir:—In reply to your communication of the 30th ult., I would say that, although I do not believe that mechanical restraint is ever an absolute necessity in the management of a case of insanity, I do believe that at times it is a useful adjunct to other means; and, when properly used, I consider it a perfectly legitimate and humane measure. Certainly it should never be used indiscriminately, at the discretion of attendants, but only upon the order of a physician, and should be ordered by him with the same care, and with the same regard to the requirements of the case, that he would order a drug; and when so used I think there is as little danger of its use being abused as there is of either physical or chemical restraint.

Yours very truly,

I. O. TRACY.

Dr. STEPHEN SMITH was for some years State Commissioner in Lunacy of the State of New York before the passage of the present law creating a Board of Commissioners. His reply as to his views is as follows:

NEW YORK, May 5, 1892.

CLARK BELL, ESQ.

Dear Sir:—Dr. John Connolly, of England, the pioneer in the abolition of mechanical restraint, and in substituting the personal care of an attendant, affirmed that the effect of a struggle of an insane person with an attendant was infinitely preferable to a struggle with mechanical appliances. In the former case the patient, when overcome, is subdued, often penitent, and usually regards the attendant with respect and sometimes with affection. But the mechanical appliance simply creates irritation and engenders a spirit of revenge. This statement once seemed to me absurd, but I have had abundant opportunities to see its truth verified.

I began visiting institutions for the insane officially during the period of transition from the extreme employment of mechanical restraint to its almost entire abolition. I saw patients at one time in straps, strait jackets, cribs, manacles, and at another free from all such appliances, but in the immediate care of an intelligent and competent attendant. The change was often remarkable. I could relate many instances like this: In one asylum I found a woman, on repeated visits, confined in a remote room, and tied, hands and feet, to the bed. It required several attendants to change her clothes, and only on such occasions was she released. On a subsequent visit I found her among the other patients, neatly dressed, quiet, and orderly. A new attendant on the ward explained the reform. On her first visit to the room of the patient she removed all restraint, gave her a bath, put on a new dress, brought her out upon the ward, and there

was no further trouble. The attendant stated that the patient at first resisted her violently, and, with oaths, threatened her life, but she seized her with such force that, after a brief but ineffectual struggle, she yielded, and quietly obeyed every command.

In a State asylum where mechanical restraint had been abolished, I witnessed a violent struggle between a powerful woman patient and a very slight attendant, but of remarkable agility. To my surprise the attendant succeeded in overcoming the patient. I questioned the attendant afterwards in regard to her experience with and without mechanical restraint. She said she much preferred restraint by attendants, for their influence over patients was greatly increased by these direct personal efforts to control them. Dr. Connolly was right in his assertion, so far as relates to those insane who still have sufficient mental capacity to appreciate their surroundings.

But there is a class of insane so maniacal, or so demented, as to be susceptible to no personal influence, and yet they injure themselves or others, or destroy clothing, when unrestrained. With these the use of such mechanical appliances as so control the use of their hands that they can do no harm is a necessity. Again, there are insane so feeble that they must be kept in a recumbent position to effect a cure, and yet who persist in standing or walking. Confining such patients in bed by such simple means as a sheet covering their bodies and fastened to the bedstead, as at the Homœopathic Asylum, is greatly preferable to the constant efforts of an attendant. The Utica crib was severely condemned, and yet I have seen many a feeble patient restored by being compelled, while in it, to retain the recumbent position.

Whoever enters an asylum ward and attentively examines the insane, readily discovers that some require the restraint of an attendant, others of padded gloves, or appliances that prevent too free use of the hands, and others must be confined to bed. While it has been abundantly proved that mechanical restraint has been so employed as to be harmful to the insane, it has been equally demonstrated that the treatment of the insane without such appliances has resulted in severe injuries to themselves and others.

The correct position to assume in the use of restraint of the insane is midway between the two extremes. Every case should be treated according to its own peculiarities. In general, it would be wrong to apply a strait-jacket continuously to a patient who could appreciate his condition and be influenced and controlled by an attendant, and it would be the height of folly to require an attendant to hold an imbecile's hands all day to prevent him from destroying his eyes, or to sit by the bedside of a feeble patient constantly, to keep him in a recumbent position.

Truly yours,

STEPHEN SMITH.

Dr. C. K. BARTLETT, superintendent, of many years' asylum experience, now medical superintendent of the Minnesota State Hospital for the Insane, at St. Peter's, Minn., replies:

HOSPITAL FOR INSANE, ST. PETER'S, Minn,
May 6, 1892.

CLARK BELL, ESQ.

Dear Sir:—Yours of the 30th ult. was misdirected, and went first to New Hampshire, and came to me last evening. I fear my statements will be too late for your service, but may, nevertheless, be of little importance to the subject. I have read and heard many discussions concerning restraint and non-restraint; but they have always appeared to me nearly useless, from the fact that different persons argued from dissimilar standpoints and widely different facts and circumstances. I am satisfied, from personal observation in this country and abroad, that the same persons who advocate non-restraint in one hospital, if placed in some other, would quite as firmly favor and use restraint. A man given unlimited room, unlimited means, unlimited and experienced help, and a class of patients all of one nationality, might find it easy to manage his patients without restraint; while, if placed in charge of another—overcrowded, consisting of a dozen different nationalities, with limited means, limited help, and that mostly untrained and inexperienced, would be strongly inclined to support the system of restraint—to save expense, to prevent damage and avoid serious accidents from the conflicts liable to arise from the prejudices of nationalities. No humane man will sleep quite soundly while he knows there are two and three men sleeping together in the same room, without any form of restraint, if he has reason to suspect either one is liable to sudden excitement of a homicidal nature. With an experience of ten years in an eastern hospital and nearly twenty-four in this, I am not ambitious to be known as an advocate of either restraint or non-restraint; but believe in the judicious use of some form of restraint for special cases, and that *no other* kind of treatment will accomplish equally good results. Take, for instance, a case inclined to stand up night and day—exhaustion and death will as surely follow as night will succeed day, and at no distant period; but compel the patient to remain in a horizontal position, and recovery will be the result. I have seen too many cases of this form of insanity recover under mechanical restraint to doubt its propriety or its beneficial effect. I would write more, but think it unnecessary, as the letter of Dr. Ralph L. Parsons, of Greenmount, N. Y., so nearly expresses my sentiments on the matter under discussion. He has had extensive experience, and takes a broad and sensible view of the whole subject.

Respectfully yours,

C. K. BARTLETT.

Dr. H. A. BUTTOLPH, one of our oldest asylum superintendents in the service, for many years superintendent of the New Jersey State Asylum, at Morris Plains, writes as follows:

SHORT HILLS, New Jersey, May 7, 1892.

CLARK BELL, ESQ.

Dear Sir:—Agreeably to your request, I send you "short notes" of my views in regard to the use of mechanical restraint in the treatment of the

insane in institutions for their care and cure, if curable, or, if otherwise, for their own and the safety and welfare of those with whom they are associated. Preliminary to this, however, it seems proper to state, for the eye of the general reader, that a very large proportion of the inmates of every well-planned, equipped, and managed modern institution, not overcrowded, enjoy greater freedom in many respects than while residing in their own private homes.

With regard to those who require additional restraint to that imposed by the building in general, it should be alike the duty and privilege of the physician in charge, in justice to individual patients, to order that form and degree of restraint, whether manual, mechanical, or chemical, or all combined, that he regards as best suited to fulfil the indications of the case, and without reference to any policy or practice relating to the inmates of the house in general.

So important is it that the medical officer be allowed to exercise his own judgment and freedom in the treatment of those under his charge, that it could not, with justice, be said by or of him—as reported in certain quarters—that he was the only person in the establishment whose *head* and *hands* were alike under *restraint.*

Sincerely yours,

H. A. BUTTOLPH.

Dr. BUTTOLPH's letter illustrates the most objectionable form in which the advocates of restraint can place the question.

In acknowledging it, I said to the good Doctor, who is a humane and kind-hearted physician, and who would be most judicious and considerate from his own standpoint in applying mechanical restraint, that the basis suggested by him of leaving it to the individual discretion of the superintendent was, to me, the worst possible criterion that could be devised."

It is doubtful if any of the superintendents who chained and manacled the insane, confined them in dungeons, and treated them like wild beasts, for one moment ever considered but that they were doing what was absolutely and indespensably necessary for the safety of the inmates and for the best interests of the insane.

It was the *intelligence*, the *Savoir faire* of the superintendents, who, in their discretion, conscientiously made the insane undergo all the horrors that Connolly and Pinel helped to

abolish, that these grand men assailed, not their conscientiousness, not their humane considerations.

Men like Dr. Buttolph are like the keepers in the Bicêtre when Pinel knocked off the mancles. These were good men, humane men, but erring and misguided men, and they did not know what could be done by other means, other methods, till the light of Pinel's action illumined the paths.

Dr. Buttolph felt the force of this criticism and sent in response the following reply:

SHORT HILLS, N. J., May 9, 1892.

Dear Sir:—Replying to yours of this date, I would say that I, at first, wrote at considerable length on the subject of special restraint, for certain conditions and cases of insanity, in illustration and justification of a principle. Finding that I had exceeded your permission to give "short notes," I laid my paper aside and expressed in brief the principle that should govern a medical officer in charge of an institution for the insane, assuming, of course, that he is carrying out the principle in detail. An *intelligent, humane* physician, near the close of the century, would not ignore the progress made since its beginning.

To give a single instance, in illustration of the propriety of the rule, I suppose the case of a female in an advanced stage of puerperal mania, who is still able, from high nervous excitement, to manifest unusual strength. The obvious indications are to save the strength of the patient by preventing exhausting effort and securing rest in sleep. To accomplish these objects, she should be placed in a recumbent position, which should be maintained with little interruption for hours, possibly days and nights, in succession, according to the necessities of the case, on account of general weakness. This would be done for the patient by attendants usually after having had a warm bath, during which cold water should be applied to the head, to equalize the circulation between the body and brain, and to lessen general excitability.

Should the patient readily yield to the use of these simple means, the necessity for the use of more forcible measures may, to a great extent, be obviated. In another case, however, the patient may, under the influence of high excitement and active delusions, resist the efforts of several attendants to place her in bed, which being done, a prolonged struggle follows to keep her there, during all of which she, perhaps, resists, under the impression that she is being attcked with murderous intent. In the meantime the physician has prescribed the kind and amount of medicine deemed suitable and safe, in the circumstances, to be administered, as heroic treatment in such condition is seldom admissible. At this stage the manual effort to retain the patient in bed having failed, a resort may be had to some simple mechanical means, to which the patient will make little or no opposition, when she may safely be left under the care of a single quiet attendant

or nurse and in very many cases, having received proper nourishment, will fall asleep, which is the first step to recuperation and recovery.

In such a case the physician may be said to have wisely and humanely combined his resources—that is of chemical, manual, and mechanical restraint to ensure the life of his patient. With this end in view, would you restrict him in the use of either one of the measures employed, and if so, *which* and *why?*

Very hastily yours,

H. A. BUTTOLPH.

There are none so blind as those who will not see.

I asked Dr. Magnan, at St. Anns, how he would treat a certain class of cases that had been named to me by a physician who conscientiously believed that restraint was absolutely indispensable. Dr. Magnan said: "That he never had encountered any difficulty in his great experience in treating any case and all kinds of cases without restraint. That he could treat them much better and easier and more successfully without than with restraint."

Need a reply be made to a physician of Dr. Buttolph's great experience, who talks of calming and quieting a sick and nervously prostrated woman, insane at that, by forcing her to lie, as one would imagine, in that discarded horror of Utica Asylum, an iron crib?

To most insane minds it would be like putting potash on a raw sore.

How does Dr. Buttolph suppose Dr. Peter Bryce would treat his suppositious case, or Dr. Alice Bennett, Dr. William Orange, Dr. W. B. Fletcher, Dr. P. M. Wise, or that great body of asylum superintendents whose testimony show such appliances absolutely harmful by impeding recovery?

Dr. Dwight Shumway Moore, assistant physician at the State hospital for the insane at Jamestown, North Dakota, sends me his views:

The State Hospital for Insane,
Jamestown, North Dakota, April 30, 1892.

Clark Bell, Esq., New York City.

Dear Sir:—In deciding how far mechanical restraint of the insane shall be done away with, every trace of personal feeling or professional rivalry,

of desire for the distinction of being the originator of a new therapeutical method or novel philanthropical movement, or, on the other hand, of conservative attachment to past customs, ought to be rigorously excluded as factors in the formation of judgment.

Since entering this specialty the greater part of my professional work has been in the capacity of assistant superintendent of the North Dakota Hospital for the Insane, and under the direction of Dr. Archibald, its executive head. It is, therefore, to the observation of his advanced methods, and liberal, kindly way of meeting the practical difficulties of hospital management, that I owe, and gratefully acknowledge here, my growing conviction that the use of restraint, not merely mechanical, but manual and chemical as well, is, with the assistance of intelligent, experienced nurses, comfortable surroundings, absence of all restriction of individual action except in the essentials of discipline and treatment, and the cultivation throughout the whole institution of a universal spirit of charity and kindly forbearance, almost never necessary.

But never and almost never are different things. Entirely different.

"Therefore, all things whatsoever ye would that men should do to you, do ye even so to them." If any man, realizing fully what it is to lose the reins of reason, is ready to ask that, under no circumstances whatever, for the prevention of injury either to himself or to others, should the power to restrain him be given to anyone whatsoever, then let him act according to the faith that is in him. As for me, I could not, in all sincerity, make such a request.

Very respectfully,

DWIGHT SHUMWAY MOORE.

Dr. WILLIAM B. FLETCHER, the eminent alienist, who sent a short letter in the opening of this discussion of mechanical restraint, sends the following:

DEAR CLARK BELL:

I could not do more to express myself than poor Cowper to define mental diseases.

The mind is—

"A harp whose chords elude the sight,
Each yielding harmony disposed aright;
The screws reversed, (a task which, if He please,
God in a moment executes with ease,)
Ten thousand times ten thousand strings go loose,
Lost, till He tune them, all their power and use."

And the following treatment, described by Whittier, is the pith of my opinion.

"Gentle as angels' ministry
The guiding hand of love should be,
Which seeks again those chords to bind
Which human woe hath rent apart.
To heal again the wounded mind,
And bind anew the broken heart.

The hand which tunes to harmony
The cunning harp whose strings are riven,
Must move as light and quietly
As that meek breath of summer heaven
Which woke of old it's melody;
And kindness, to the dim of soul,
Whilst aught of rude and stern control
The clouded heart can deeply feel,
Is welcome as the odors fan'd,
From some unseen and flowery land,
Around the weary seaman's keel."

Truly yours,

W. B. FLETCHER.

Indianapolis, May 9, 1892.

Dr. DANIEL CLARK is one of the foremost Canadian alienists, and is at the head of the Asylum for Insane at Toronto, Ontario, in the dominion of Canada.

His letter is valuable in this connection :

ASSYLUM FOR THE INSANE, TORONTO, CANADA,
May 10th, 1892.

CLARK BELL, ESQ., Attorney, 57 Broadway, New York.

Dear Sir:—I have not used any mechanical restraint or seclusion in this asylum since January 8, 1883, except in two surgical cases. I have not found them necessary. Non-restraint is not a hobby of mine, and did my judgment lead me to believe that camisoles or mitts were the best for the patients, I would not hesitate to resort to them.

A camisole is a mild form of restraint and has not the Old Adam in it that nurses' hands have. Sentiment in this respect is all well enough, but it may go too far, if it hinders the adoption of what discretion may dictate. In asylums that have one nurse to every six patients, it is easy to adopt the system of non-restraint, but where there is—as in this institution—only one nurse to every sixteen patients among the disturbed and excited class, it is quite another. However, so far, for eight years I have done very well without restraint or seclusion.

Yours truly,

DANIEL CLARK,
Medical Superintendent.

CONCLUSION.

The concensus of opinions upon this question among medical superintendents of every field of thought will, I feel, prove valuable upon the questions involved in this discussion.

It has been my purpose to give prominence to the views of those who were understood to be the foremost advocates

of the use of mechanical restraints in the care and treatment of the insane.

In New York asylums where restraints have been abolished since the death of Dr. Gray, of Utica asylum, where the great battle had been fought, where the conflict was at first fiercest and most intense, it had been succeeded by a calm feeling of restful quiet, and there came, also, the belief that the new gospel of peace had become universal.

This controversy will dispel that illusion, for it was more than an illusion. It was a delusion.

We learn that throughout American asylums there are still a few superintendents who both practice and believe in the utility and efficacy, I had almost said the humanity, of mechanical restraint.

I think it not only due to truth, but to history, to say that the purity of the motives of those who still use this method of force and violence as a controlling idea in the method of governing and managing the insane cannot be questioned and should not be asserted.

The motives of the superintendents at the beginning of the century were alse as pure and as good as those who preceded and who succeeded them. It was a question of knowledge, of beliefs, of education, of inherited ideas, notions, and traditions. The Anglo-Saxon race is one that is wedded to its traditions, and changes come slowly into that type of mind.

Our trend of thought is conservative.

The railway was resisted at first.

The street-car was fought like an intruder and a danger.

Every step onward or upward in human progress is, so to say, a battle-field.

These are the mile-stones of human progress.

What are the fruits that we may justly claim now of this concensus of warring opinions?

I will attempt to formulate a few points which, I think, no matter how much we differ in other respects, we can agree upon as certain truths.

The discussion shows:

1. That leading and prominent asylums for the insane have been successfully conducted for the past decade, both in America and in the British Islands, without any recourse to mechanical restraints at all.

2. The testimony of such men or of such superintendents as Peter Bryce, in Alabama; of Dr. William Orange, at Broadmoor; of Dr. W. B. Fleming, at Indianapolis; of Dr. Alice Bennett, at Norristown, Pa.; of Wise and Pilgrim, and, Blumer, in New York asylums, of Daniel Clark, at Toronto; of Maudsley, Bucknill, and Richardson, in England, and of scores of others, is given fully, freely, and without reserve that they have not in a long experience found it at all necessary to resort to mechanical restraint in their practice in what they deem to be the best management of the institutions in their charge or over which some of them have been in charge.

3. Those who have not as yet learned how to accomplish similar results; who follow the old and tried and well-worn paths; who find it easier, and, as many think, even better to use the methods in which they were reared and trained, as a rule conscientiously act in what they in good faith believe to be the best way.

4. Much can be said of the crowding of asylums everywhere existing; of the want of trained and reliable attendants; the economy, so called, of limiting superintendents to too few and too poorly paid attendants; and the ease with which the restraints can be applied to enforce what many cannot accomplish without, as explaining why some institutions have adopted habits, so to say, of restraining patients

that would not be even considered, much less tolerated, in others.

5. While public sentiment is strongly opposed to the use of mechanical restraint, both in America and Great Britain, that is not enough of itself to condemn the practice. Still, at the same time, it can not be ignored by superintendents of asylums in countries where the will of the people substantially rules, even when majorities may be wrong. The greatest measure of good to the patient should be the guiding star in the horizon of a superintendent's life.

The invasion of the private rights of the individual should not be resorted to unless absolutely necessary for his own good or safety or that of others. To deprive a man of his liberty is one thing, but to go further should be carefully studied before attempted with the insane, and would, in itself, in most cases, arouse such a resistance and fury as to seriously retard the recovery, if not to aggravate the disease.

6. None among all those who apologize for or defend restraint in this discussion attempt to defend gross abuses.

None would sooner condemn practices in certain asylums, that are generally regarded as abuses, than would Dr. Savage or Dr. Hack Tuke.

The pity of their efforts and influences on American asylums and superintendents was to hold them up as authority for practices they would never sanction, adopt, or excuse in others.

7. There is really less difference between the two extremes of thought, so far as disclosed here, than would appear at first blush.

The extremist here limits himself to surgical cases, and a very few and very extreme cases.

No one justifies now that universal use of straight jackets, cribs, and other appliances everywhere in general use in American asylums only a few years since.

No chains are now considered necessary. No locks.

The fury of the wild beast in the insane is exorcised everywhere now.

We are growing more to realize the law of kindness, of gentleness, of tenderness, of love even.

I have seen asylums that were like households, and the superintendent the good friend of all.

8. If good work can be done in one institution without it and good results attained, is it not a pertinent useful study to fairly and conscientiously examine the methods and imitate them for any large minded superintendent?

And if, as the result of this discussion, I shall have encouraged one of those who now uphold the banner of non-restraint, or influenced one who, used to restraint, honestly endeavors to dispense with it, I shall feel a *raison d' etre* for my labor.

9. Finally, if that great army of unfortunates who are without an advocate, who have suffered and endured agonies and miseries that cannot be told, if they would be as a class and as a body benefited by the total abolition of restraint, and the substitution of that system of asylum government and management of which, I may say, Dr. Brice and Dr. William Orange are the type or exponents, shall we not all with one voice say, that the end is one devoutly to be wished, and give thanks, as one asylum after another embraces the more beneficent and therefore better system of dispensing with it altogether.

THE LAW UPON THE SUBJECT.

The legal aspect of the question has not been considered.

The law has given great power to medical superintendents, but owing to abuses this power has been restricted by statutes in England and America.

As a legal proposition, a superintendent has the right to order restraint only when, from *symptoms witnessed* by

themselves, they have reason to apprehend the lunatic will injure *himself or others in person or property.* The real question is where there is *imminent danger.*

Taylor's Manual of Medical Jurisprudence, 12th London edition, 744.

In Hill *vs.* Philip the court held that a medical man is legally responsible for his treatment of a lunatic.

Legal Examiner, 1852, pp. 307, 318.

In Scott *vs.* Wakem, (Guilford Sun Assizes, 1862,) a medical man was sued for damages for placing an insane patient under restraint, suffering from delirium tremens, as unnecessary and without authority of law.

In order to provide for the protection of lunatics and for the prevention of undue violence or frequency in the application of restraint, the present law of England compels the keepers of asylums to certify each case or of each occasion on which any mechanical restraint is resorted to. An omission to make this entry is a misdemeanor, and at the Maidstone Lent Assizes, 1851, two medical men were convicted and fined for placing patients under restraint without having made the entries required by law. (Regina *vs.* Maddock.)

Taylor's Manual of Medical Jurisprudence, 12th London ed., 747; "Use and Abuse of Restraint," *Jour. Psyc. Med.*, 1849, p. 240; London *Medical Gazette*, Vol. XVII, p. 556.

In any American State, if an action was brought by or in behalf of an insane patient confined in an asylum against a medical superintendent for the use of mechanical restraint, the issue would be whether the restraint used was absolutely necessary to prevent the lunatic from injuring himself or others, and the burden of proof would be on the physician to show that it was, and that the danger was so imminent that he was obliged to resort to the restraint as a

necessity. This would be a question for a jury to decide, and it is quite safe to say that mechanical restraints, as applied, coming under such tests before juries in courts of law, would, in a large number of instances, be decided against the physicians. For, while the courts would hold that they had the legal right to employ it, when indispensably necessary, in cases of immediate danger, juries would decide that it was not necessary, and mulct the physician in damages, so jealous is the law of the right of the citizen, and the insane man is not, by his misfortune, deprived of his legal rights.

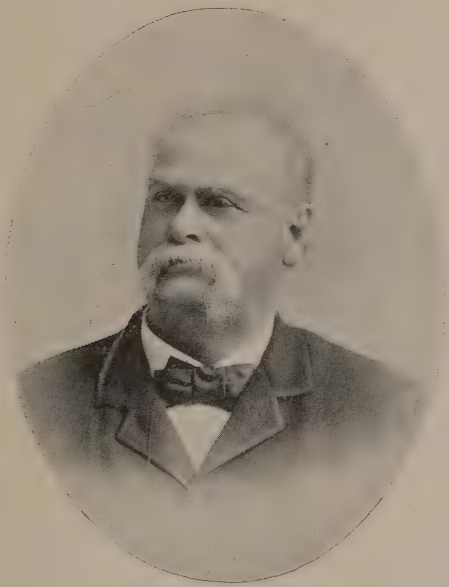
NOTE.—The recent trial of Dr. Wiederhold, at Kassel, in Germany, for resorting to light flagellations of a patient in his charge, suffering from hysteria, is quite in point. She had indulged in crying and screaming without cause, so as to disturb the house and other patients. Every effort by the physician to quiet her had proved futile, and he had resorted at last to corporal chastisement. Dr. Wiederhold exercised his best judgment and in the exercise of his discretion resorted to this means to cure her of her morbid desire to attract attention.

Prof. Tuszeck, of Marburg, testified as an expert, "that it was scientifically inadmissible to use corporal chastisement in the treatment of nervous patients."

Prof. Pellman, superintendent of the lunatic asylum at Bonn, testified "that he was personally opposed to the therapeutic use of corporal chastisement, that it was forbidden absolutely in the German State Asylums, but that certain medical men approved of its use."

The public prosecutor pressed the case and denied the existence of any extenuating circumstances. The court took the same view, and Dr. Wiederhold was sentenced to three months' imprisonment.

No one who knows Dr. Wiederhold can doubt but that he acted according to his best judgment and for what he believed to be the ultimate good of the patient, but the question of personal rights is higher than the mistaken and erring judgment of superintendents of asylums, or of medical men, no matter how conscientious.



HON. A. C. SMITH,
Lay Judge New Jersey Court of Errors and Appeals.

BLOOD AND BLOOD STAINS IN MEDICAL JURISPRUDENCE.*

BY CLARK BELL, PRESIDENT OF THE AMERICAN INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.

The public interest aroused in recent criminal trials, where the identification of blood and blood stains became an important subject of inquiry, has led me to bring to the attention of medico-legal jurists, and the general public, the present state of scientific knowledge bearing upon this subject, with the decisions of the courts regarding it; for the purpose or showing as well what can be ascertained by scientific enquiry as to discriminating between human blood and that of other animals, as to illustrate in a familiar way what is now known, and can be demonstrated by science, with the methods employed by the most skillful, in deciding such questions, so as to make it easily understood by all intelligent persons.

BLOOD.

Blood in all vertebrate animals consists of small corpuscular structures floating in what has been called blood Plasma or *Liquor Sanguinis*, sometimes called blood Serum. These consists of red corpuscles, white corpuscles, and blood plates, so-called.

THE RED CORPUSCLES.

The red blood corpuscles afford the best means and the most interesting study of these questions in forensic medicine by the microscope and the micrometer.

Swammerdam first saw them in the blood of the frog in 1658, Malpighi in that of the hedgehog in 1661, and Leeu-

*Read before the Medico-Legal Society, May session, 1892.
*Read before the American Microscopical Society at Rochester, August 11, 1892.

wenhock in the blood of man in 1673. Perhaps no subject in Morphology has been more carefully studied, but up to the present time we have learned comparatively nothing of the structural arrangement of the red blood corpuscles; nor can we explain any considerable number of the phenomena which they display.

FORM, COLOR, AND STRUCTURE.

Two distinct forms have been discovered in the red corpuscles of blood.

1. The circular disc occurs in all the mammals except the camel and auchenia.

2. The eliptical or oval discs are seen in the blood of all birds, amphibia, most fishes and of mammals, the camel and the auchenia. The microscope enables the observer to distinguish the blood of birds, fishes, and reptiles, from mammalian blood (which includes that of the human being) by the organic structural difference in form.

The oval or eliptical corpuscles have also another distinguishing feature. They each have a central nucleus which gives them an apparent prominence in the center.

Fig 1.

RED BLOOD CORPUSCLES.

a. Flat side presented.
b. Single side view presented.
c. In roleaux like coin.

The red blood corpuscles, while always red in appearance, are round, not like the orange, but round like the silver dollar, and they revolve in the *Liquor Sanguinis* with their flat sides together like roleaux of coin, *vide* Fig. 1.

This nucleus in the eliptical or oval corpuscle stands out, is prominent, and may be compared to the disc

formed by placing two saucers together with the convex surface presented outwards, *vide* Fig. 2.

Fig. 2.

a. Side view of oval disc.
b. End view, showing nucleus.

In the circular discs they have no nucleus and appear depressed in the center.

This nucleus does not exist in the corpuscles of the mammalia, even in the two exceptions named, and this is a difference so easily shown by the microscope that the observer can at once state positively from the form and structure alone, whether the red corpuscles are oval and nucleated, and so not from the blood of man or mammalia—with the exceptions named—and if so found, can assert positively that they belong to birds, fishes, reptiles, some of the camel tribe, or the amphibia.

WHITE CORPUSCLES AND BLOOD PLATES.

There are three kinds of blood corpuscles: The red, which I shall chiefly consider in this paper, the white corpuscle, and the so-called blood plates; the latter having been only recently discovered by Hayem in 1878.

(Recherches Sur l' Anatomie Norm et path du sang by Hayem, Paris, 1879. Comptes Rendus de l' academie de sci 1882, 18 Julie, and by Bizzozero in 1882.)

Vide his article on Blood in his *Klienische Microscopic*, 1887. Also Virchow's Archiv, 1882, Bd. 90, p. 261.

These blood plates are demonstrated to be the important factors in the clotting of blood. Studies of these blood plates have been made by William Osler, and by him published in the Phil. *Medical Times* of April 3 and October 17, 1886, and by Welch. *Vide*:—

"The Structure of the White Thrombi." Transactions Pathological Society of Philadelphia, Vol xiii, (1887).

They number about one-twentieth part of the blood corpuscles.

But little as yet is known concerning them, their characteristics or structure, or how they differ in different animals. So far as now known they throw no light upon the subject of our present inquiry and science has yet little or no aid from them on the question of discrimination, from those of other mammals, though research may, in the near future, add to our knowledge as to their difference in number and appearance in various animals, and as to other characteristics.

The white corpuscles are few in number, averaging only about one to five hundred of the red corpuscles.

They are spherical in shape, of a pale, milky appearance, have a peculiar amœboid motion, and assume varied shapes. They also have nuclei. They are of a comparatively uniform size in all vertebrates, being from 1-2700 to 1-3000 of an inch in diameter, so that a contrast of their diameters throws no light upon the present inquiry.

Prof. Formad claimed that the white blood corpuscles are the progenitors of the red ones.

So far as present scientific knowledge goes, they furnish no source of information in discriminating between the blood of man and other animals.

The specific gravity of the red corpuscles is stated by high authorities to be about 1088; that of serum 1028.

Dana has calculated that the ratio of the weight of the total bulk of blood to the total weight of the body is in man 1-13, and the same in the dog, but less in other domestic animals:—the cat, 1-14; horse, 1-15; rabbit, 1-18; guinea pig, 1-19; calf, 1-21; sheep, 1-24; pig, 1-26; ox, 1-29.

Formad claims, from his own researches, made upon red blood corpuscles, that they have in fact no nuclei; that they are not actually red, but yellow; that the apparent nucleation is due to their biconcavity, on account of which the center

of the corpuscle appears dark in one focus with a light periphery, while in another focus the reverse occurs.

He also claims to have demonstrated by the test of the venom of serpents that they have no cell wall or membrane, and that, in fact, what seems a cell wall or membrane is only the outer hardened layer of the protoplasm of the corpuscle.

METHODS OF INVESTIGATION.

Three methods of investigating blood have been employed by scientific observers, to which I shall briefly advert, as each furnishes its peculiar evidence upon the subject of the present inquiry, which is to determine how far science lends her aid to detect the existence of blood in medico-legal cases, and when found, to determine how far it is possible to discriminate between the blood of man and that of other animals:—

1. Chemistry.
2. The spectroscope.
3. The microscope and its allies, the micrometer, and the micro-photograph.

CHEMISTRY.

The highest chemical authorities unite in the statement that there are no ascertained chemical differences between the blood of man and that of other animals.

THE GUAIACUM TEST.

This test, discovered by Dr. Day, of Australia, is confirmed by Taylor, Tidy, Reese, Formad, Wormley, and others, and is a beautiful test for blood or blood stains, to show the presence of blood, and to distinguish them from other stains and substances.

This test is thus made: Take the tincture of guaiacum, dissolve it in rectified spirits of wine and add peroxide of hydrogen dissolved in ether.

If in this is dropped a solution containing blood it will turn the tincture blue in a few seconds. While there are several organic substances that will turn guaiacum blue, still this is a practical and valuable test. The force of the experiment lies in the fact that while blood alone will not blue guaiacum, in the presence of organized ether (peroxide of hydrogen dissolved in ether) the blue color at once appears.

Prof. C. Meymott Tidy describes this test as follows:

"Wet the blood stain with *freshly prepared* tincture of guaiacum, and then add a small quantity of an etheral solution of hydroxyl. (To prepare *the tincture of guaiacum*, wash the tears of guaiacum resin first with a little alcohol and then dissolve the pure unoxidized resin by shaking up with a little fresh spirit. *The etheral solution of hydroxyl* is prepared by mixing together equal parts of ether and hydroxyl. The ether is however not necessary for the reaction). If the stain be blood, a characteristic blue tint will be produced.

"If the material stained be of such a color as to obscure the reaction, add the several reagents, and afterwards press the fabric between two pads of white blotting paper, when the blue color will be absorbed by the paper. A number of impressions may in this manner be obtained, and the reaction be rendered apparent.

"If the blood be fresh the reaction may be obtained by simply treating a solution of the coloring matter in cold distilled water with the guaiacum and hydroxyl.

"To detect blood in urine the following process has been suggested: Mix together, in a test tube, equal parts of turpentine and tincture of guaiacum. Then add the urine so that it may flow to the bottom of the tube. The guaiacum resin which now separates, if blood is present, becomes an intensely blue color.

"In this test the blue color results from the oxidation of the guaiacum resin. But it is important to note that guaiacum is blued by a great number of substances, such as by gluten, milk, and the fresh juice of various roots and under-ground stems, (horseradish, colchicum, carrot, etc.); also by nitric acid, chlorine, the chlorides of iron, mercury, copper and gold, the alkaline hypoclorites, and a mixture of hydrocyanie acid and sulphate of copper; also by pus, saliva and mucus mixed with carbolic acid creosote, etc., etc.

"Although the guaiacum test is neat and beautiful, it should never be relied upon *by itself alone* as positive proof of a stain being blood."—(1 Tidy's Legal Medicine, 221.)

Prof. Reese says regarding this test:

"It is a remarkable fact, as discovered by Schonbein, that *autozone*, as found in the peroxide of hydrogen (in which the oxygen is in the positive

state), has no effect at all in changing the guiac resin to a blue color, moreover while the resin is blued by a variety of mineral and organic substances, the coloring matter of the blood has no effect upon it.

"The *guaiacum test* then depends upon the fact that while the blood has no power to oxidize or blue the resin, the presence of peroxide of hydrogen (autozone), which itself has no power to oxidize the guaiacum, causes the resin then to be oxidized by the blood and the blue color appears."—Reese Med. Juris. and Tox., (1891,) p. 131.

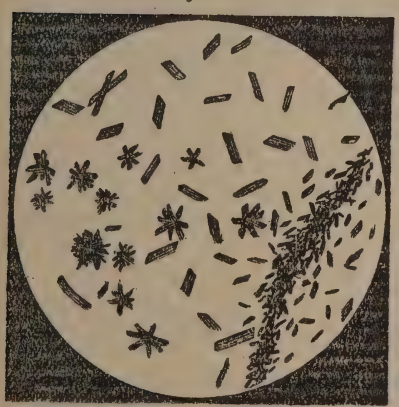
The same authority says:

"Objections have been raised against this test on the ground that other substances besides blood will produce a blue color in the presence of guiac and peroxide of hydrogen, such as saliva, bile, and red wine; but as regards the two former, their color should at once distinguish them from blood, while the latter substance requires *some hours*' exposure to produce the same results; whereas in the case of blood the effect is immediate." And he further says: "That the chemical tests will not distinguish arterial from venous blood, nor human from other blood."

He also asserts that the claim made by M. Barruel, "that if blood be shaken up with an excess of pure sulphuric acid a peculiar odorous principle will be evolved, resembling the particular animal from which the blood was obtained," has been disproved by recent investigations and is no longer regarded as reliable.—Reese. Med. Juris. and Tox., pp. 132 and 133.

HAEMATIN CRYSTALS.

Fig B



Haematin Hydrochoride.
×400 diameters.

Fig C.

Haematin Hydrochloride from 1-500 grain of blood. × 750 diameters.

Take a blood clot, or fragment of one, and evaporate it to dryness, with an excess of haematin (hydroclorate of haematin) and a trace of chloride of sodium. Then add more

acetic acid and repeat the evaporation, but more slowly. Then examine the residuum under a microscope of at least 300 to 500 diameter power. Crystals will be formed of well-known and well-defined character and shape.

Figures B and C are examples of these cryrstals, which I am permitted, by Prof. Theodore G. Wormley, of Philadelphia, to use, from his work, Micro Chemistry of Poisons.

Prof Formad, of Philadelphia, says of haematin crystals:

"That they may be produced by the addition of glacial acetic acid and sodium chloride to dried blood.

"A few granules of dried blood are pulverized on a glass slide, together with a few granules of salt; having covered it with a glass circle, a drop of the acid is allowed to flow under; the slide is then submitted to heat, when the peculiar crystals appear."—(Comparative Studies of Mammalian Blood, by Formad, p. 8.)

This test has been called "Teichman's Crystals," after its discoverer. Formad says it can be relied upon as indicating *the presence* of blood, but cannot be relied upon as indicating *the kind* of blood.

Prof. Tidy describes these crystals and this test as "Teichman's Test as modified by Neuman." He says:

"Thoroughly rub together the dried blood and common salt. Treat the mixture with glacial acetic acid and cautiously evaporate the solution until solidification commences.

"Cool the slide rapidly and examine with ¼ inch objective, when crystals of haematin (brownish black or reddish brown rhomboids, or tabular crystals), together with crystals of sodic chloride (transparent tubes) will be apparent.

"The experiment may also made without employing sodic chloride. (Casper.)

"In the case of a stain it should be placed on a glass slide and moistened with a solution of sodic chloride.

"It should then be covered over with a large thin glass, and glacial acetic acid allowed to run under the edge. The liquid is then to be heated to dryness at a boiling temperature, and the slide allowed to cool. When cold, rhomboidal crystals of hydrochlorate or haemantin, together with crystals of sodic chloride, dispersed through irregularly shaped albuminous masses, will be seen.

"It is stated that the character of the network in which the crystals are dispersed varies with different animals, forming characteristic pictures.

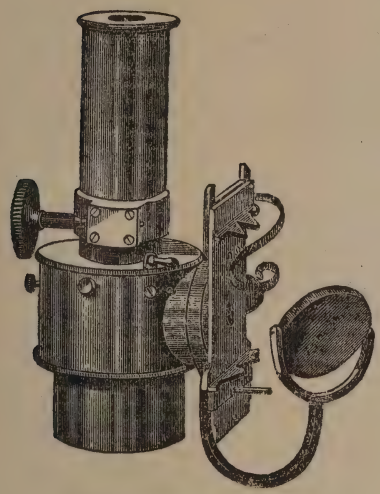
(American Journal Medical Science, LX, p. 42.")—1. Tidy Legal Medicine, p. 222.

These several tests, while reliable in determining whether the matter examined contains blood or not, are of no value, and throw no light whatever upon the question as to whether it was the blood of man or of animals that was examined.

THE SPECTROSCOPE AND SPECTRAL ANALYSIS.

This instrument furnishes valuable evidence in murder trials, to determine the presence or existence of blood in any case of doubt.

FIG D



Sorby's spectroscope eye-piece.

The liquid, to be examined diluted, is placed in a glass tube for examination, under a good light. It should be clear and great care taken with the spectral apparatus. Two tubes should be examined together for contrast, one containing blood and the other the liquid in question. Any animal blood can be used for this test. Attach the spectral eye piece to the microscope and analyze the light as it traverses the clear solution. If the red liquid owes its color to recent or oxidized blood two dark absorption bands will be seen breaking the continuity of the colored spectrum. These bands are near the junction of the yellow with the green rays, and in the middle of the green. If the blood is quite recent and of a bright red color the two absorption bands will be distinct and well defined. (Taylor's Manual of Medical Jurisprudence, 12th London Edition, 272.)

I am indebted to Lea Brothers & Co., of Philadelphia, for

the privilege of reproducing Dr. C. Meymott Tidy's beautiful plate representing this test. *Vide* Tidy Legal Medicine for same.

No matter how small the quantity of blood, if any red coloring matter remains, in good, careful hands, in the minutest test, the presence can be certainly indicated.

Sorby says that a spot of blood of only one-tenth of an inch in diameter, or a quantity of red coloring matter equal to only the 1000th part of a grain was sufficient to give conclusive evidence of the presence of blood by spectral analysis. And the late Dr. Richardson, of Philadelphia, stated that he was able, by a still more delicate process, to detect the 3000th part of a grain of blood, on an axe handle supposed to have been used in a case of murder.

THE MICROSCOPE AND ITS POWERS.

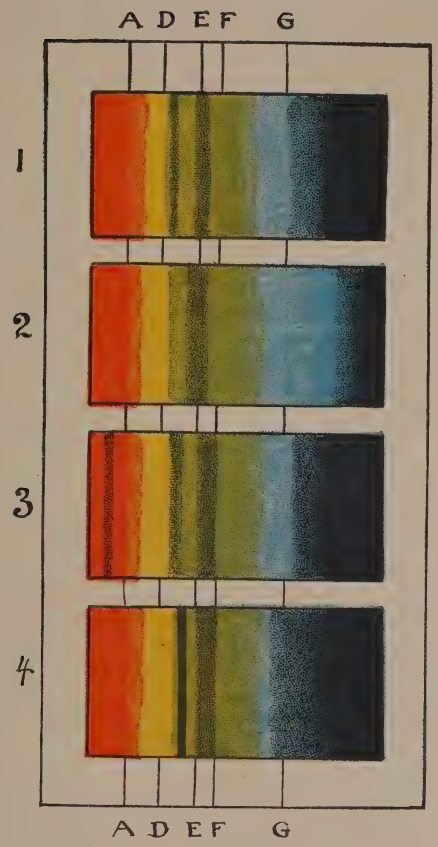
We have shown how readily mammalian blood can be distinguished from the oval and nucleated corpuscles by this marvelous instrument.

We shall conclude what we have to say upon the question as to whether, by the aid of the microscope of high powers, there is any means now known to science of distinguishing between the blood of man and the domestic animals.

It was claimed by Taylor, one of the highest authorities, that, in his day, no certain method existed of distinguishing human from other mammalian blood, when it had been once dried on an article of clothing, or upon a weapon, and his editors have, since his death, made the same claim. (Taylor, 12th London Edition, p. 279.)

The learned editor of Taylor's Medical Jurisprudence, to whom I refer, Dr. Thomas Stevenson, of London, quotes in the same volume approvingly the valuable labors of Dr. Richardson, of Philadelphia, as reported in American Journal of the Medical Sciences, July, 1874, that by the use of the microscope of higher powers, up to 750 diameters, and by other

BLOOD SPECTRA.

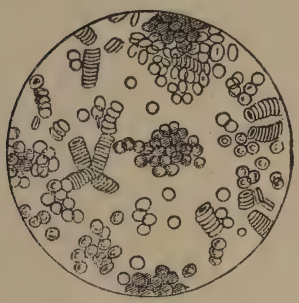


1. *Spectrum of Scarlet Hæmoglobin,* (*Oxy hæmoglobin.*)
2. *Spectrum of reduced Hæmoglobin.*
3. *Spectrum of blood after prolonged exposure to air,* (*Methæmoglobin.*)
4. *Spectrum of reduced Hæmatin.*

From Tidy's Legal Medicine.

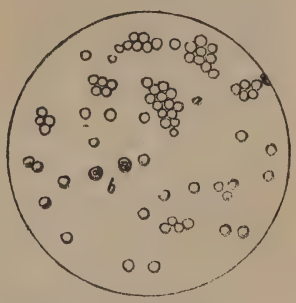
appliances, he had been able to distinguish, under favorable conditions, the blood of man from such animals as the ox and pig and to give evidence thereon in certain trials for murder. Taylor and other observers before Richardson had only used 300 to 800 diameter powers. *Vide* figures 3 and 4.

Fig. 3.



Red Blood Corpuscles, 315 diamaters.

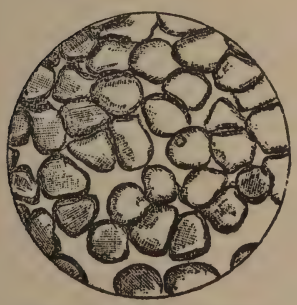
Fig. 4.



a. Red Blood Corpuscles, 315 diamameters.
b. White Corpuscles.

The method is to contrast the diameters of the red blood corpuscles of man with each of the mammalian animals.

Fig. 5.



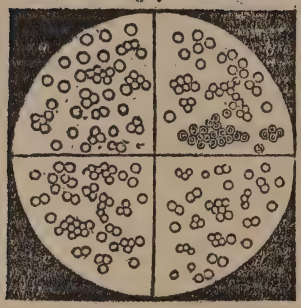
Human Corpuscles, 650 diameters. 1-3500, Dr. Seiler's measurements, Amer. Med. Times, Feb'y, 1876.

Fig. 6.

Pig's Corpuscles, 650 diameters. 1-4250, Dr. Seiler's measurements.

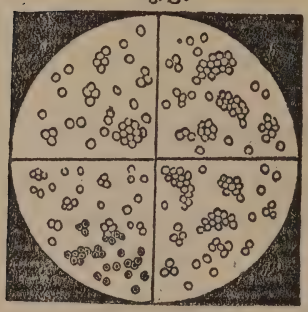
The diameter of the red corpuscle of each mammal has been ascertained approximately by averages. The difficulty lies in the exactness of the standard. For example, the average diameter of the human red blood corpuscle is 1-3200ths of an inch. *Vide* fig. 5. Reese says the maximum is 1-2000,

Fig. 7.



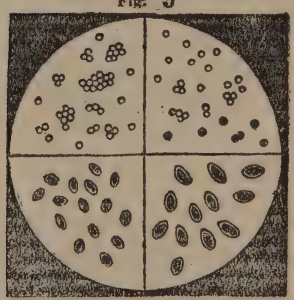
Red Blood Corpuscles magnified 319 diameters.
a. The Dog. *b*. The Mouse.
c. The Rabbit. *d*. The Ass.

Fig. 8.



Red Blood Corpuscles magnified 319 diameters.
a. The Cow. *b*. The Dog.
c. The Ox. *d*. The Cat.

Fig. 9



Red Blood Corpuscles magnified 319 diameters.
a. The Horse. *b*. The Sheep.
c. Common Fowl. *d*. Salamander.

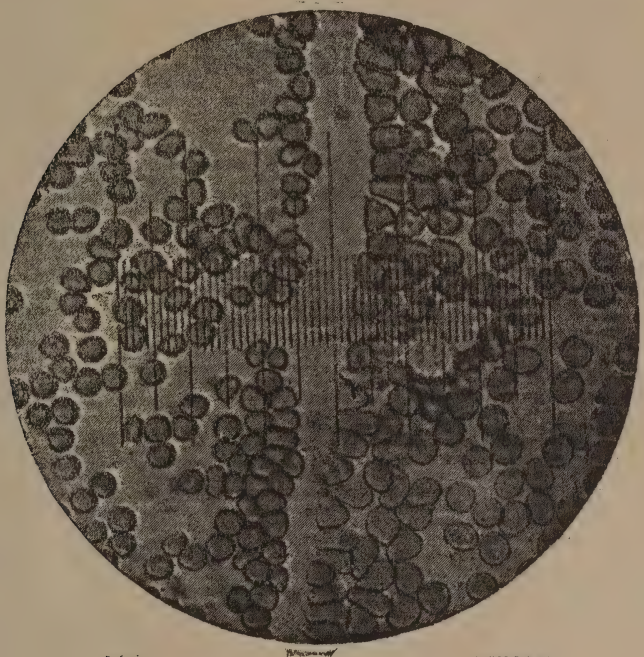
minimum 1-4000. Dr. Stevenson places the maximum at 1-3000 and the minimum 1-5000ths of an inch. Gulliver, a high authority, places the average human red corpuscle 1-3200. The Medico-Legal Society of France, in 1873, 1-3257; Wormley, 1-3250; Masson, 1-3257; Formad, in 1888, 1-3200.

All unite in the statement that the human corpuscle is larger than those of the domestic animals. These are measurements upon fresh blood, which has not been allowed to dry on animal or vegetable stuffs.

The average diamater of the red corpuscles of the blood of the sheep is 1-5000, the goat 1-6366, and these are so much smaller than those of man that a microscope of low power would certainly discriminate them by the size of the red corpuscle from those of man, as also those of the horse, 1-4600; the cow, 1-4500; the cat, 1-4004; the pig, 1-4230; and the mouse. 1-3814. *Vide* figs. 7, 8, 9.

The greater difficulty arises with those animals whose red corpuscles approximate nearer in size to those of man, such as the dog. Taylor says the average diameter of the red blood corpuscles of the

dog are 1-3540; Reese, 1-3500; Formad, 1-3580; Wormley, 1-3561; Gulliver, 1-3532.



OX AND HUMAN

Blood Corpuscles Side by Side, Magnified 500 Diameters. Micrometry Illustrated. Photo-Micrograph by Dr. Seiler.

Dr. William J. Lewis, of Hartford, in a scholarly inaugural address as President of the American Society of Microscopists, delivered in August, 1889, says of the dog:

"Unfortunately in the dog the red corpuscles so closely resemble those of man that it is difficult to distinguish between them.

"Out of two hundred corpuscles from the blood of man, and an equal number from a dog, Dr. J. P. Bradwell found that those measuring 1-3200 of an inch, forty-six were from the man and six from the dog. Of those measuring 1-3300ths of an inch, thirty-seven were from the man and seventeen from the dog. Of those measuring 1-3400 of an inch, fourteen were from the man and twenty-three from the dog. It will thus be seen that although the average human blood corpuscles is slightly larger than that of the dog, the variations in size overlap in measurement so as to make it unsafe to express a positive opinion when the question is confined to distinguishing between human or dog's blood. The blood of the guinea pig is still more difficult to determine in comparison with that of man.

"From careful measurement of the red corpuscles in a given specimen, if found to average the same as those of man, a positive opinion may be expressed that the blood did not come from the sheep, ox, horse, pig, or goat, the corpuscles in those animals being so much smaller as to render the distinction easy."

Prof. Reese, now perhaps one of our highest American authorities, claims that Dr. Richardson has demonstrated the possibility of distinguishing between human blood and that of the horse, cow, sheep, pig, and goat, with certainty and precision. That by employing very high microscopic powers, such as 1-30th of an inch objective, magnifying with a micrometer eye-piece over 3000 diameters, the human red blood corpuscle appears about 9-8ths of an inch in diameter, whilst those of the ox and sheep are about 5-8ths of an inch in diameter, indicating a very obvious difference in their respective sizes, and that the use of the ordinary powers (500 or 600 diameters) fail entirely to recognize the difference.—(Reese Medical Jurisprudence and Toxocology, p. 132, 2d Edition Text Book, 1889.)

Since the researches of Dr. Richardson great advances have been made by able observers, and it is now generally believed, that with a skilled and careful microscopist, and a good instrument of high powers, it will generally be possible to diagnosticate a human blood stain from that of any of the lower animals, with the possible exception of the guinea pig and the opossum. This, however, has not yet been conceded by some very high authorities, both American and European.

In 1880 Prof. Reese, as editor of the 8th American Edition of Taylor's Medical Jurisprudence, Philadelphia Edition, said:

"Prof. Richardson's microscopic investigation of blood stains are now always conducted with powers much higher than those mentioned by the author. (Taylor, speaking of powers of from 300 to 500 diameters.) I have examined with him blood stains from man, the pig, the ox, and the sheep, with powers varying from 1200 to 1800 diameters, and can testify to the obvious differences which unequivocally distinguish human blood

from that of the above mentioned animals, by the use of these high microscopic powers. Prof. Richardson's observations have afforded material aid to the cause of justice in several noted homicide trials, where the identification of suspected blood spots was a necessary factor in the evidence. By the employment of these high powers there is no difficulty in positively distinguishing between the human blood corpuscles and that of any animal whose corpuscle is less than 1-4000th of an inch."

In inviting Prof. Reese to be present and partake in the discussion of this paper before the Medico-Legal Society, I requested him, if unable to attend, to give his views upon the general question of discrimination between the blood of man and the domestic animals, and as to the opinions expressed by him in 1880, above referred to.

His reply cannot fail to be of interest to the members of this Society and all students of the subject:

"ATLANTIC CITY, N. J., April 30, 1892.

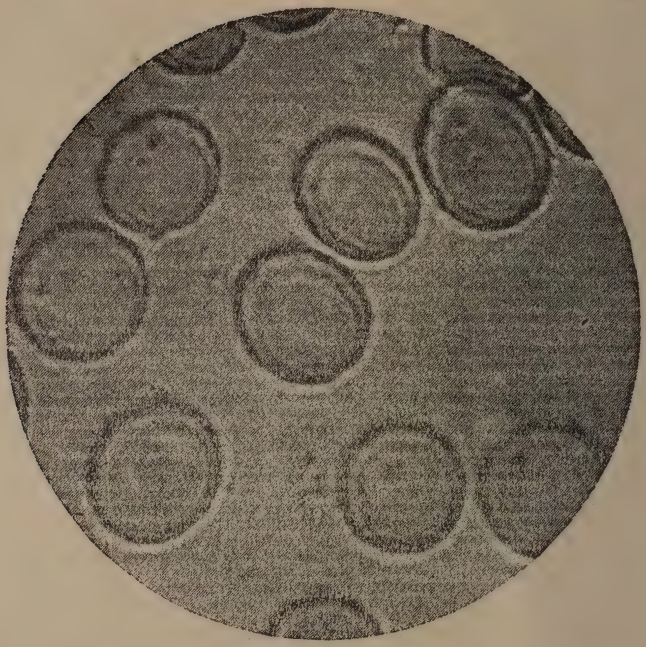
MY DEAR MR. BELL:—

I have duly received your two communications. I do not think I can answer you more satisfactorily than referring you to the last edition (third) of my work on Medical Jurisprudence (1891). If you will kindly excuse the (apparent) egotism of my so doing, for my article there on "Blood and Blood Stains," I think you will find the subject fully discussed and written up to the present census of scientists and medical experts.

Certainly (as stated in Taylor's) there is no difficulty in detecting corpuscles much smaller than 1-4000 of an inch as, e. g., those of the horse, sheep, and goat. The present pretty general idea seems to be that whilst it is admitted that a skillful microscopist can certainly distinguish between a human corpuscle and one of a horse, cow, pig, sheep, and goat (domestic animals with which it would be likely to be confounded), still in a murder trial, where human life is at stake, the expert is hardly warranted to swear that the blood stain is anything more than that of a mammal.

Sincerely yours,

JOHN J. REESE."

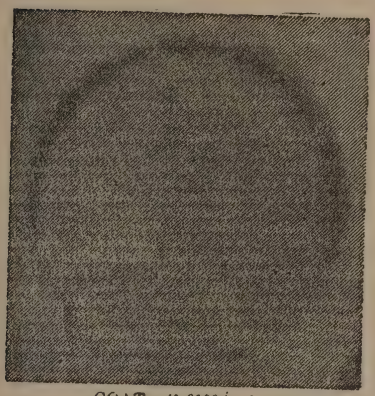


FRESH HUMAN BLOOD. Red Blood Corpuscles, Magnified 2250 Diameters. Photo-Micrograph. 1-18 Zeiss Hom Oil Immersion and Projection Eye-Piece.

SHEEP. (1-5000.) 2 inches.

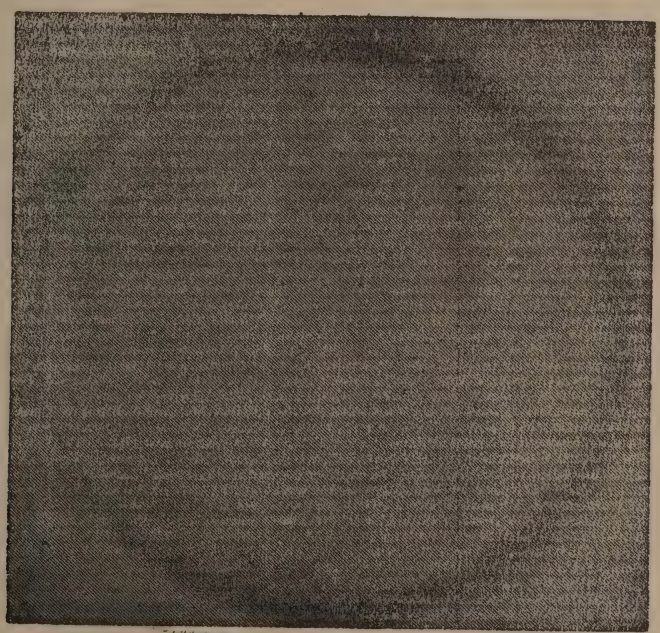
The studies of Prof. Formad, of Philadelphia, are perhaps of as great interest as those of any recent observer, especially with high powers. His method with dried blood is first to expose it to a gentle, moist heat from one to ten days, according to the age of the stain.

"A small granule of the suspected blood on a fibre from the blood stained fabric is placed on a glass slide in a drop of 30 to 35 per cent. solution of caustic potash and covered with a glass slide. If the blood stain was recent the disintegration of the clot commences at once, and the isolated corpuscles separate and swim swiftly through the liquid if the stage of the microscope is slightly inclined."



GOAT. (1-6100.) 1 3-5 inches.

Prof. Formad has recently claimed that by a still higher amplification, obtained by re-photographing single corpuscles of different animals (prepared in the same manner as Prof, Richardson's, and under similar projections) he has secured most singular and striking results.



MAN. (1-3200.) 3 1-8 inches.

Thus by enlargement to 10,000 diameters, Formad claims

to have obtained the following photographic measurements: The human corpuscles, enlarged to $3\frac{1}{8}$ inches in diameter;

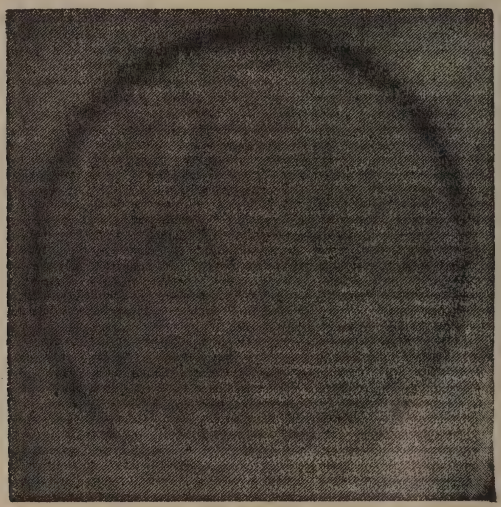
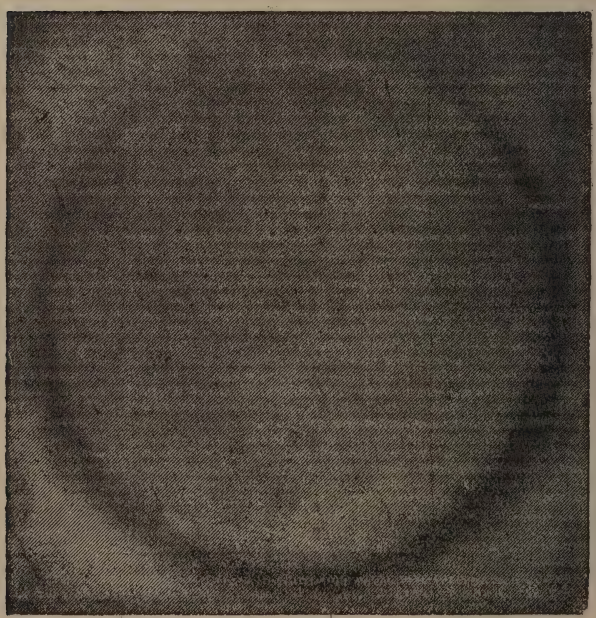


FIG. 10. OX. (1-4200.) 2 1-3 inches



DOG. (1-3500.) 2 4-5 inches

guinea pig, 3 inches; dog, 2 4-5 inches; ox, $2\frac{1}{3}$ inches; sheep, 2 inches; goat, $1\frac{3}{8}$ inches. Under such tests, and the light thrown upon the subject by these able observers, with these very high powers, the careful observer would, as he claims, be able to state that the corpuscles were *not* those of the sheep, the goat, the horse, the cow or ox, and probably the dog, as well as most of the mammals, except the guinea pig and opossum.

The tables of Prof. Wormley as to the average diameter of the red corpuscles of the mammalia may be quoted as of high value. He has made illustrations of the apparent size of red corpuscles, under an amplification of 1150 diameters, expressing the average diameters in vulgar fractions, thus—3250 equals 1-3250 of an inch. This table of illustration shows the corpuscle of man, the dog, mouse, ox, sheep, and goat.

BLOOD.

Reptiles.	Wormley.		Gulliver.	
	Length.	Breadth.	Length.	Breadth.
Tortoise (land)	1–1250	1–2200	1–1252	1–2216
Turtle (green)	. . .	. . .	1–1231	1–1882
Boa-constrictor	1–1245	1–2538	1–1440	1–2400
Viper	. . .	. . .	1–1274	1–1800
Lizard	. . .	. . .	1–1555	1–2743

Batrachians.	Wormley.		Gulliver.	
	Length.	Breadth.	Length.	Breadth.
Frog	1–1089	1–1801	1–1108	1–1821
Toad	. . .	. . .	1–1043	1–2000
Triton	. . .	. . .	1–848	1–1280
Proteus	. . .	. . .	1–400	1–727
Amphiuma tridactylum	1–358	1–622	1–363	1–615

Fishes.	Gulliver.	
	Length.	Breadth.
Trout	1-1524	1-2460
Perch	1-2099	1-2824
Pike	1-2000	1-3555
Eel	1-1745	1-2842
Lamprey	Circular.	1-2134
Nucleus	. . .	1-6400

Average Size of the Red Blood-Corpuscles.

Mammals.	Wormley.	Gulliver.	Mammals.	Wormley.	Gulliver.
Man	1-3250	1-3200	Rhinoceros	1-3649	1-3765
Monkey	1-3382	1-3412	Tapir	1-4175	1-4000
Opossum	1-3145	1-3557	Lion	1-4143	1-4322
Guinea-pig	1-3223	1-3538	Ocelot	1-3885	1-4220
Kangaroo	1-3410	1-3440	Mule	1-3760	
Musk-rat	1-3282	1-3550	Ass	1-3620	1-4000
Dog	1-3561	1-3532	Ground-squirrel	1-4200	
Rabbit	1-3653	1-3607	Bat	1-3966	1-4175
Rat	1-3652	1-3754	Sheep	1-4912	1-5300
Mouse	1-3743	1-3814	Ibex	1-6445	
Pig	1-4268	1-4230	Goat	1-6189	1-6366
Ox	1-4219	1-4267	Sloth	. . .	1-2865
Horse	1-4243	1-4600	Platypus (duck-billed)	. . .	1-3000
Cat	1-4372	1-4404	Whale	. . .	1-3099
Elk	1-4384	1-3938	Capybara	1-3164	1-3190
Buffalo	1-4351	1-4586	Seal	. . .	1-3281
Wolf (prairie)	1-3422	1-3600	Woodchuck	. . .	1-3434
Bear (black)	1-3656	1-3693	Musk-deer	. . .	1-12325
Hyena	1-3644	1-3735	Beaver	. . .	1-3325
Squirrel (red)	1-4140	1-4000	Porcupine	. . .	1-3369
Raccoon	1-4084	1-3950	Llama { long diam.	1-3201	1-3361
Elephant	1-2738	1-2745	Llama { short "	1-6403	1-6229
Leopard	1-4390	1-4319	Camel { long diam.	1-3331	1-3123
Hippopotamus	1-3500	1-3429	Camel { short "	1-5280	1-5876

Birds.	Wormley.		Gulliver.	
	Length.	Breadth.	Length.	Breadth.
Chicken	1-2080	1-3483	1-2102	1-3466
Turkey	1-1894	1-3444	1-2045	1-3508
Duck	1-1955	1-3504	1-1937	1-3424
Pigeon	1-1892	1-3804	1-1973	1-3643
Goose	. . .	. . .	1-1836	1-3839
Quail	. . .	. . .	1-2347	1-3470
Dove	. . .	. . .	1-2005	1-3359
Sparrow	. . .	. . .	1-2140	1-3500
Owl	. . .	. . .	1-1763	1-4078

The general conclusion reached by Prof. Wormly is "*That the microscope may enable us to determine with great certainty that a blood is* NOT *that of a certain animal and is* CONSISTENT *with the blood of man; but in no instance does it in itself enable us to say that the blood is really human, or indicate from what particular species of animal it was derived.*"

Prof. Formad has compiled a comparative table of the mean diameters of the red corpuscles of various animals, and placed in contrast his own measurements with those of Gulliver, Prof. Wormley, C. Schmidt (1848), Malinin (1875), the Medico-Legal Society of France (1873), Masson (1885), Hans Schmid (1878), Woodward (1875), and he has extended, in this table, the measurements in fractions of an English inch, as also in m.m., or the French millimeter.

The English inch and its vulgar fraction is in most general use in America, and the French millimeter upon the continent. For example, under the French system the diameter of the human corpuscle is 0.0079 m.m., equal to 1-3200 inch of the English system.

Sometimes the French employ the vulgar fraction of a m.m., and sometimes the Americans a decimal of an inch, thus: Sometimes expressed in the French system in speaking of the human corpuscle as 1-120 of an m.m., and in our system as 0.0079 m.m., which are equal to 1-3200 of an inch.

COMPARATIVE TABLE OF THE AVERAGE RESULTS OF MEASUREMENTS OF RED BLOOD CORPUSCLES OF MAMMALS.

Each column giving the average size (diameter) of the Corpuscles as obtained by various observers, expressed in fractions of the English inch, side by side with the common expression (roughly) in millimeters.

	Gulliver, 1845 and 1875.		Wormley, 1885.		C. Schmidt, 1848. Mallinin, 1875.		French Medico Legal Society, 1873, and Wilker.		Masson, 1885.		Hans Schmid, 1878.		Woodward, 1875.		Personal Observations.	
	In.	M. M.	In.	M. M	In.	M. M.	In.	M. M.	In.	M. M	In.	M. M	In.	M. M.	In.	M. M.
Elephant	1.2745	0.0092	1.2738	0 0093	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Anteater	1.2769	0.0088	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Walrus	1.2769	0.0088	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sloth	1.2865	0.0086	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ornithorynchus	1.3000	0.0081	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whale	1.3099	0.0080	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Opossum	1.3557	0.0071	1 3145	0 0080	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Capybara	1.3190	0.0080	1.3164	0.0080	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Man	1.3200	0.0079	1.3250	0 0078	1.3300	0.0077	1.3257	0 0078	1.3257	0.0078	1.3412	0.0074	1.3092	0 0082	1.3200	0.0079
Seal	1.3281	0.0078	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Beaver	1.3325	0.0076	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Muskrat	1.3550	0.0072	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porcupine	1.3369	0.0075	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monkey	1.3412	0.0074	1 3382	0.0075	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kangaroo	1.3440	0.0074	1 3410	0.0074	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guinea Pig	1.3538	0.0071	1.3223	0.0079	.....	.....	.....	.....	1.3300	0 0077	.....	.....	1.3213	0.0079	1.3400	0 0075
Wolf	1.3600	0.0070	1 3422	0 0074	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.3450	0.0074
Dog	1.3532	0.0071	1.3561	0 0071	1.3636	0.0070	1.3485	0 0073	1 3577	0.0071	1 3846	0.0066	1 3246	0.0078	1.3580	0.0071
Rabbit	1.3607	0.0070	1.3653	0.0070	1.3968	0.0064	1 3653	0 0069	1 3636	0.0070	.....	.....	.....	.....	1.3662	0.0069
Ass	1.4000	0.0063	1.3620	0.0070	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rat	1.3754	0.0068	1 3652	0 0070	1 3968	0.0064	.....	.....	.....	.....	1 5000	0.0051	.....	.....	.....	.....
Bear	1.3693	0.0070	1.3656	0.0069	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mouse	1.3814	0.0067	1 3743	0.0067	1 5000	0 0051	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mule	.....	.....	1.3760	0 0067	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Squirrel	1.4000	0.0064	1.4140	9.0061	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ox	1.4267	0.0060	1.4219	0.0060	1.4354	0 0058	1.4545	0.0056	1.4237	0.0060	1.4695	0.0054	.....	.....	1 4200	0 0060
Pig	1.4230	0.0060	1 4268	0.0059	1.4098	0 0062	1.4098	0 0062	1.4098	0.0062	1.4098	0.0062	.....	.....	1.4250	0.0060
Horse	1.4600	0.0055	1 4243	0,0059	1.4464	0 0057	1.4545	0 0056	.....	.....	.....	.....	.....	.....	1 4310	0.0059
Cat	1.4404	0.0058	1 4372	0 0058	1.4545	0.0056	1.3922	0.0065	1.4440	0.0057	.....	.....	.....	.....	.....	.....
Sheep	1 5300	0.9048	1 4912	0.0951	1 5649	0.0045	1 5076	0 0050	1.4464	0.0057	1.6060	0.0042	.....	.....	1.5000	0.0051
Goat	1 6366	0,0040	1 6189	0,0041	1.6369	0.0040	1.5525	0.0046	.....	.....	.....	.....	.....	.....	1.6100	0.0042

GULLIVER'S TABLES.

The micrometry of Gulliver's tables have been very generally accepted as standard, although taken a good many years ago and with imperfect instruments.

His studies extended over thirty years, and embraced 800 animals.

The object of his work was a biological study, to prove that the blood corpuscle was the most reliable means of the classification of species in animals.

His measurements were made almost half a century ago, and he did not claim for them exactness of micrometry, but he only claimed for them "*that the relative value of the measurements, though probably not unexceptionable, may be entitled to more confidence as a fair approximation to the truth.*"

It is a singular fact that all modern observers recognize Gulliver as an authority, and that the researches of our best workers have strengthened the general conviction of the reliability of his measurements. He is cited by the standard authors as an authority.

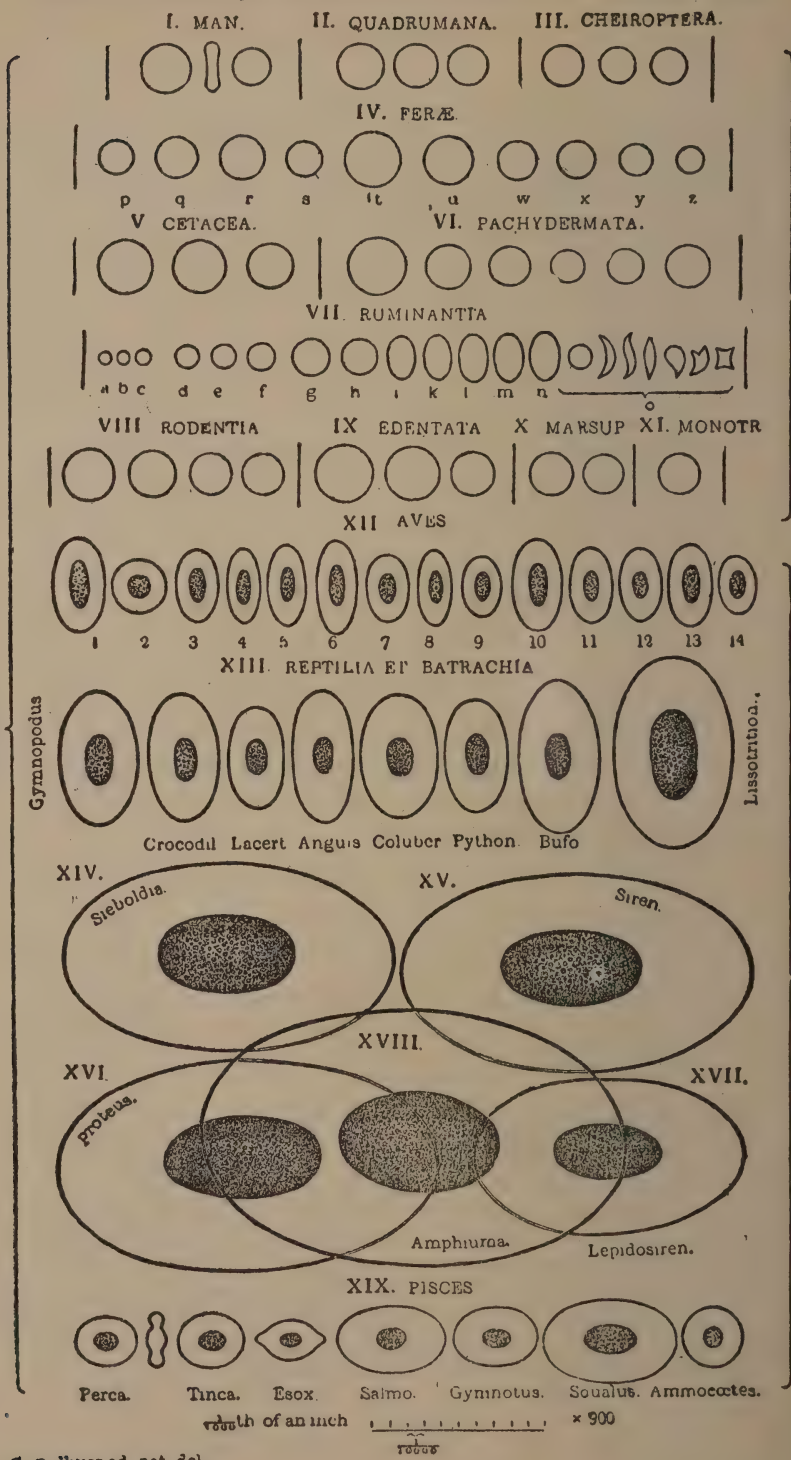
It would be quite impossible for me to re-produce Gulliver's tables complete, for want of space.

I shall re-produce his plate, and with it selections from his explanations, as prepared by Prof. Formad, giving English names to the Latin used by Gulliver, and the diameters in the fractions of an English inch Some oversights of the engraver, as regards omission of figures on the plate, are explained in the text.

NOTE; EXPLANATIONS OF THE FIGURES UPON GULLIVER'S PLATES.—The red blood-corpuscles are all done to one and the same scale, representing 1-1000 of an English inch, and each one of the ten divisions 1-10000 of an inch. *Vide* foot of page. Only corpuscles of the average size and regular shapes are given, and they are all magnified to the same size, 900 diameters. The descriptive tables explain the plate.

PLATE IV.

Gulliver's micrometry of red blood corpuscles, all to a uniform scale.



G. Gulliver ad. nat. del.

A —VERTEBRATA APYRENÆMATA. (See Plate IV)

I Homo (Man)..... 1-3200

*1. Corpuscles lying flat

2. The same on edge

3. Membraneous base of same after removal by water of coloring matter; it shows diminution in diameter on account of acquired spherical shape.

II. Quadrumana (Monkeys.)

4. Simia troglodytes (Chimpanzee)..... 1-3412

5 Ateles ater. (Black-faced spider monkey)..... 1-3602

6 Lemur anguanensis..... 1-4003

III Cheiropetera (Bats)

7. Cynonycteris collaris (fruit bat)..... 1-3880

8. Vespertilio noctula (large bat)..... 1-4404

9 Vespertilio pipistrellus (common bat)..... 1-4324

IV Feræ (beasts of prey.)

([p]) 10. Sorex tetragonurus (shrew)..... 1-4571

([q]) 11 Ursus labiatus (lipped bear)..... 1-3728

([r]) 12 Bassaris astuta civet cat)..... 1-4033

([s]) 13 Cercoleptes caudivolvulus (kinkajou)..... 1-4573

([t]) 14 Trichechus rosmarus (walrus)..... 1-2769

([u]) 15 Canis dingo (dog, Australian)..... 1-3395

([w]) 16 Mustella zorilla (weasel)..... 1-4270

([a]) 16 Felis leo (lion)..... 1-4322

([b]) 16 Felis leopardus (leopard)..... 1-4319

([x]) 17 Felis tigris (tiger)..... 1-4206

([y]) 18 Paradoxurus pallasii (Pallas paradoxure)..... 1-5485

([z]) 19 Paradoxurus bondar (Bondar paradoxure)..... 1-5693

([a]) 19 Hyena striata (striped hyena)..... 1-3735

V. Cetacea (Whales.)

20. Balæna (boops—whale)..... 1-3099

21. Delphinus globiceps (caing—whale)..... 1-3200

22. Delphinus phocæna (porpoise)..... 1-3829

VI. Pachydermata.

23. Elephas indicus (elephant)..... 1-2745

24. Rhinoceros indicus (rhinoceros)..... 1-3765

25. Tapirus indicus (tapir)..... 1-4000

26. Equus caballus (horse)..... 1-4600

27. Dicotyles torquatus (peccary)..... 1-4490

28. Hyrax capensis (Cape hyrax)..... 1-3308

VII. Ruminantia (Ruminants.)

([a]) 29. Tragulus javanicus, (Javan chevrotain, musk deer)..... 1-12325

*Through an oversight, some of the figures are not marked upon the plate.

(d) 30	Tragulus meminna (Indian chevrotain)		1-12325
(-) 31.	Tragulus Stanleyanus (Stanleyan chevrotain)		1-10825
( ) 32.	Cervus nemorivagus (deer)		1-7060
(e) 33.	Capra Caucasica (Caucasian ibex)		1-7045
(f) 34.	Capra hircus (domestic goat)		1-6366
(g) 35.	Bos urus (represented by Chillingham cattle)		1-4267
(h) 36	Camelopardalis giraffa (giraffe)		1-4571
(i) 37	Auchenia vicugna (vicuna)	L. D.	1-3555
		Sh. D.	1-6587
(k) 38.	Auchenia paca (alpaca)	L. D.	1-3361
		Sh. D.	1-6229
(l) 39	Auchenia glama (llama)	L. D	1-3361
		Sh. D.	1-6229
(m) 40	Camelus dromedarius (single hump camel)	L. D.	1-3254
		Sh. D.	1-6931
(n) 41	Camelus bactrianus (double hump camel)	L. D.	1-3123
		Sh. D.	1-5876
(o) 42.	Cervus Mexicanus* (deer—Mexican)		1-5175

VIII. RODENTIA (RODENTS).

43.	Hydrochœrus capybara (capybara)	1-3190
44.	Castor fiber (beaver)	1-3325
45.	Sciurus cinereus (squirrel)	1-4000
46	Mus messorius (harvest mouse)	1-4268

IX EDENTATA

47.	Myrmecophaba jubata (ant eater)	1-2769
48	Bradypus didactylus (sloth)	1-2865
49.	Dasypus villa (armadillo)	1-3315

X MARSUPIALIA

50	Phascolomys (wombat)	1-3456
51.	Hypsiprymnus setosus (kangaroo rat)	1-4000

XI MONOTREMATA

52	Echidna histrix (echidna)	1-3840

B.—VERTEBRATA PYRENÆMATA

XII AVES (BIRDS)	L D	SH D
1. Struthio camelus (ostrich)	1-1649	1-3000
2 The same made round and deprived of color by water		
3 Vanga destructor (East India shrike)	1-2019	1-3892
4 Lanius excubitor (great grey shrike)	1-1989	1-5325
5 Bubo virginianus (horned owl)	1-1837	1-4000
6. Syrnea nyctea (snowy owl)	1-1555	1-4042
7 Columba rufina (rufous pigeon)	1-2314	1-3329
8. Columba migratoria (wild pigeon)	1-1909	1-4626
9. Dolichonyx oryzivorus (rice bird)	1-2400	1-4167

* The only animal in which the red blood corpuscles present a variety of shapes in the same individual.—Gulliver

10. Buceros rhinoceros (rhinoceros hornbill)... 1-1690—1-3230
11. Psittacus augustus (August amazon)..... 1-2085—1-3606
12. Phasianus superbus (barrel-tailed pheasant) 1-2128—1-3587
13. Pelecanus onocrotalus (white pelican)..... 1-1777—1-3369
14. Trochilus sp. (humming bird)..... 1-2560—1-4000

Figures XII, XIV, XVI, XVII and XVIII represent red blood corpuscles of Reptilia and Bactrachia; while under figure XIX. those of the fishes are given. In all these figures the names of the animals are inserted upon the plate, and they do not require any comment at this place. It is evident that the blood corpuscles of the Amphiuma are so large that they can be perceived by the naked eye.

WELCKER'S TABLES.

The measurements by Welcker are of very exact measurements of certain animals, and I am enabled to give the following table of a few of his mean measurements.

For man, on an average, expressed in millimeters:

	Min.	Max.
Diameter of disc, 0.00774, - - - - - -	0.00640	0.00860
Greatest thickness of the disc, - - - - - - - - -		0.00190

These measurements were made on fresh blood or blood dried in thin layers on glass.

His mean table is as follows: (Zeitschrift fur rationelle Medecin, 3 R. Band, * * p. 259; Stricker's Manual of Histotomy, article "Blood," by Alex. Rollett, p. 267, *et seq.*)

I. Circular Corpuscles.

Dog	0·0073
Cat	0·0065
Rabbit	0·0069
Sheep	0·0050
Goat (old)	0·0041
Goat (8th day)	0·0054
Moschus Javanicus	0·0025
Petromyzon mari	0·0150
Ammocœt branch	0·0117

II. Elliptical Corpuscles.

a, Long diameter; *b*, short diameter.

	a.	*b.*
Lama	0·0080	0·0040
Pigeon (old)	0·0147	0·0065
Pigeon (fledged)	0·0137	0·0078
Pigeon (fledged)	0·0126	0·0078
Duck	0·0129	0·0080
Fowl	0·0121	0·0072
Rana temporaria	0·0223	0·0157
Rana temp. (dry)	0.0214	0·0156
Triton Cristatus	0·0293	0·0195
Proteus (1 and 2)	0·0582	0·0337
	0·0579	0·0356
Sturgeon	0·0134	0·0104
Cyprinus Alburn	0·0131	0·0080
Lepidosiren Annectens	0·0410	0·0290

The method employed by Welcker has been thus described:

He employed a very short cylinder of plaster of Paris, the proportion of the radius to the height of which was estimated to correspond with the dimensions of the blood corpuscles; and by scooping out the surface and rounding off the edge he obtained a curvature of the surface which, to the eye,(!) was similar to that of the blood corpuscles. He thus determined the mean volume of human blood red corpuscles to be .000.000.072,217 of a cubic millimeter. Welcker, moreover, carefully lined the interior of this model, which was 5,000 times larger than the corpuscles, with paper of uniform thickness, then weighed the paper used and compared this with the weight of a known superficial measure of the same paper. From the data thus obtained he estimated that the superficies presented by a blood corpuscle amounts to 0.0,001.280 square millimeters. It is sufficiently obvious that these numbers have only a coarsely approximate value."

The most extended tables of the measurement of corpuscles are to be found in Milne Edwards. (Lecons sur la Physiologie et l' Anatomie Comparie, Paris, 1857, T. 1 p. 41.

PROF. WORMLEY'S TABLES.

The following tables of the average or mean size of the normal red blood-corpuscles of different animals were made by Prof. Theo. G. Wormley, in general from blood after the corpuscles had been dried in very thin layers, but in some instances while the blood was still fluid, and is taken, by his permission, from his work, "Micro-Chemistry of Poisons," published by J. B. Lippencott & Co., Philadelphia, in 1885.

These averages he has expressed in vulgar fractions of an English inch, and are the mean of two or more series of measurements, and in some instances of the blood of different individuals of the same species.

Prof. Wormley has contrasted his measurements with those of Prof. Gulliver, as published in the proceedings of the Zoological Society of London, June 15, 1875, and also in Hewson's works, at page 237, *et seq.*

COLLECTIVE RESULTS OF SOME OF THE SERIES OF MEASUREMENTS OF RED BLOOD CORPUSCLES IN BLOOD STAINS AND IN EXPERIMENTALLY DRIED BLOOD

Normally shaped (bi-concave, disc-like) corpuscles only being measured.

Source of Blood.	Upon what Substance.	Age of Stain.	Condition, or how Prepared.	Number of Individuals Examined.	Number of Preparations Made.	Reagents used for Remoistening.	Time of effect of Reagents.	Per cent. of Measurable Corpuscles in each preparation.	Total Number of Corpuscles measured.	Average Diameter in inch.	Normal Diameter of Fresh Blood.
Man.	Knife and Glass.	2 days.	Rapidly dried	10	30	*K. O. H.	5 to 30 min'ts.	20 to 50	1000	1-3260	1-3200
Man.	Cloth	7 days.	Slowly dried	2	10	K. O. H.	½ hour to 2 dys	5 to 20	250	1-3300	1-3200
Man.	Wood and Linen.	10 days.	Slowly dried	4	20	*M. F	2 hrs to 2 dys.	5 to 15	200	1-3300	1-3200
Man.	Paper	14 days.	Decomposed from moisture.	1	10	M. F.	3 days.	not measurable.			
Man.	Knife.	2 years.	Well dry preserved	1	10	K. O. H. & M. F.	2 days.	10 to 50	400	1-3240	1-3200
Man.	Stone.	6 years.	Well preserved	1	30	K. O. H. & M. F.	3 days.	5 to 20	500	1-3320	1-3320
Guinea-pig.	Glass.	7 days.	Rapidly dried stains	6	18	K. O. H. & M. F.	1 to 2 days.	10 to 40	500	1-3460	1-3400
Wolf	Glass.	7 days.	Rapidly dried stains	1	50	K. O. H. & M. F.	1 to 2 days.	5 to 20	1000	1-3450	1-3450
Dog.	Cloth.	7 days.	Rapidly dried stains.	4	12	K. O. H. & M. F.	1 to 2 days.	5 to 50	500	1-3650	1-3580
Rabbit	Knife.	7 days.	Rapidly dried stains.	10	30	K. O. H. & M. F.	1 to 2 days.	5 to 50	1000	1-3700	1-3662
Ox.	Cloth.	7 days.	Rapidly dried stains.	10	30	K. O. H. & M. F.	1 to 2 days	20 to 40	1000	1-4240	1-4200
Sheep.	Glass.	7 days.	Rapidly dried stains.	3	9	K. O. H. & M. F.	1 to 2 days.	50	500	1-5060	1-5000
Goat.	Knife.	7 days.	Rapidly dried stains.	3	9	K. O. H. & M. F.	1 to 2 days.	50	500	1-6200	1-6100

*"K. O. H." stands for 33 per cent. Solution of Caustic Potash. "M. F." for Muller's fluid.

It will be observed, on a scrutiny of these tables, that there is a marked difference between these observers in the diameter of the corpuscles of the opossum, amounting to 1-27152d of an inch, and a similar discrepancy in those of the guinea-pig.

Prof. Formad challenges the correctness of Prof. Wormley's measurements and those of Dr. Woodward (1.3213). Prof. Formad says (Comparative Studies of Mammalian Blood, p. 18), that he examined ten different animals, making ten preparations in each case, and measuring 100 corpuscles from each animal, and found that the mean diameter was 1-3400 of an inch in every 1,000 corpuscles.

His results were confirmed by Drs. J. L. Hatch, A. J. Plumer, and Henry Wile, and by the celebrated Dr. Richardson, and they approximate nearer those of Gulliver.

Dr. Formad also says that Wormley's observations were of the corpuscles of one wild guinea-pig (*cavia aperia*), while Formad's examination was of the domestic (*cavia cobaya*), and that while Woodward's measurements were of the blood of the latter animal, that his micrometry was unreliable, in that he only examined 401 corpuscles, all from one drop of blood, and from a single individual.

I take pleasure, also, in quoting Prof. Wormley's observations of old blood stains, from his "Micrometry of Poisons," with his table and explanatory marks.

Examination of Old Blood-Stains.

Animal.	Age of Stain.	Remarks.	Average.	Fresh Blood.
(1) Human . .	2 months old.	Stain, unknown.	1-3358th inch.	1-3250th inch.
(2) " . .	2½ " "	Stain.	1-3236th "	" "
(3) " . .	3 " "	"	1-3384th "	" "
(4) " . .	19 " "	Clot.	1-3290th "	" "
(5) Elephant . .	13 " "	"	1-2849th "	1-2738th "
(6) Dog . . .	4 " "	Trace of stain, unknown.	1-3626th "	1-3561st "
(7) Rabbit . .	18 " "	Clot.	1-3683d "	1-3653d "
(8) Ox	16 " "	Stain.	1-4544th "	1-4219th "
(9) "	32 " "	Stain, unknown.	1-4495th "	" "
(10) "	4½ years "	Clot.	1-4525th "	" "
(11) Buffalo . .	13 months "	"	1-4312th "	1-4351st "
(12) Goat . . .	17 " "	Stain.	1-5897th "	1-6189th "
(13) Ibex . . .	13 " "	Clot.	1-6578th "	1-6445th "

In the case of the human blood, No. 1, two months old, the deposit was in the form of a thin stain on muslin, and its nature, other than that it was mammalian blood, was unknown at the time of examination. The corpuscles were readily found, and two series of thirty corpuscles each were measured. In the human blood two and a half months old, fifty corpuscles, ranging from 1-3125th to 1-3448th of an inch, were measured.

The blood-stain of the dog, No. 6, was prepared by Dr. Frankenberg, and consisted of a single stain so minute as to be barely visible to the naked eye: its nature at the time of the examination was unknown. In this instance only fifteen corpuscles were measured.

In the ox blood four and half years old, the corpuscles were rather readily obtained, and two closely concordant series of measurements were made.

In examinations of this kind it should be borne in mind that certain portions of a deposit may fail to yield satisfactory results, whilst from other portions the corpuscles may be readily obtained.

NUMBER OF THE RED-CORPUSCLES.

The actual number of the red corpuscles have been counted with the greatest exactness by the aid of the microscope. The method employed is very simple:

A given quantity of blood is diffused as equably as possible in a thousand times its volume of an indifferent fluid, say water. A small quantity of the fluid is then taken up in a capillary tube of known caliber, and the length of the thread of fluid estimated under the microscope by a micrometer.

When the contents of the tubule have been thus ascertained, they are distributed upon a slide with a little solution of gum and allowed to dry.

This preparation is then covered with a micrometer divided into squares, and the corpuscles in the several squares can be successively counted.

This method originated with Vierordt.—(Archiv fur Physal. Hiel Kunde Band xi pp. 26, 327, 854. xiii p. 259.)

It has also been modified by Welker, who has counted the blood corpuscles of man and of various animals.—(Welker Prager Viertelgahreschrift Band xliv, p. 60. I. R. Band xx, p. 280.)

The number of red corpuscles in a cubic millimetre of blood of a healthy man is thus determined to be about 5,000,000, from which the number in a gallon, quart, pint, or ounce can be computed.

It has also been as clearly demonstrated that the relative quantity of corpuscles and plasma or serum (*liquor sanguinis*) in a hundred volumes of blood is thirty-six volumes of corpuscles and sixty-four volumes of plasma. Thus the volume of blood is 64-100ths plasma or serum and 36-100ths corpuscles. (See Prof. Stricker's Manual of Histology, Article Blood, by Alexander Rollett, translated by Henry Power, of London, Chap. 13, p. 269.)

VARIATIONS IN SIZE OF THE RED CORPUSCLE.

Prof. Ewell has shown by experiments that many diseases alter the size of the corpuscles, especially microcythaemia, and that they also vary in health.

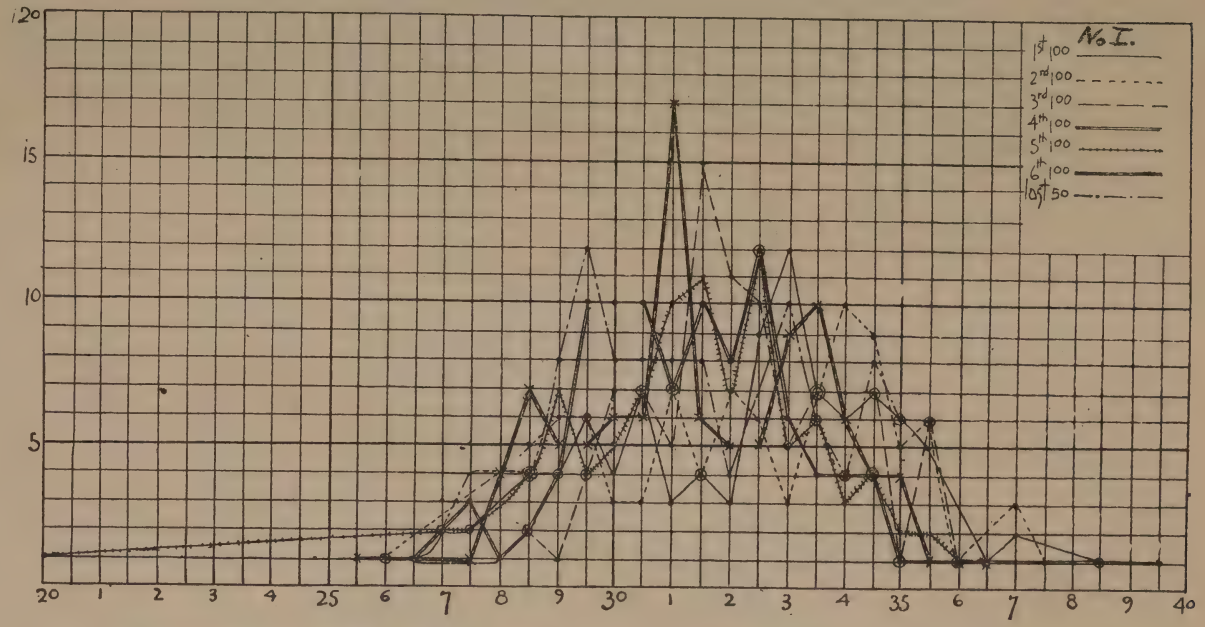
I have submitted, with his permission, three tables (I, II, and III), showing the result of the measurement of 650 corpuscles of the fresh blood of Prof. Ewell, then being in good health.

These diagrams were first drawn in rectangular co-ordinates.

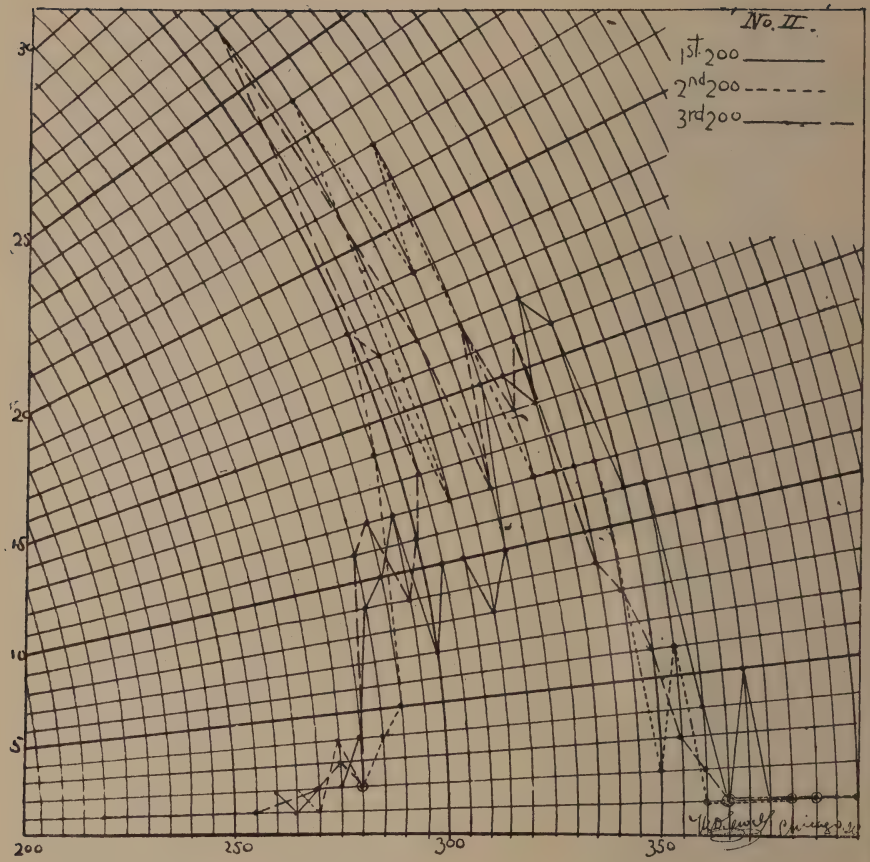
The horizontal divisions, unless otherwise noted, represent each one division of the eye piece micrometer. The vertical divisions represent the number of corpuscles, each division, unless otherwise noted, representing one corpuscle. The point of origin at the left is for want of space not shown on the diagrams. The curved lines, representing the number of corpuscles, are drawn with the point of origin as their common center, and with radii equaling the number of divisions of the micrometer subtended by them respectively. The curves, therefore, represent on a large scale the relative size of the corpuscles.

Six hundred and fifty corpuscles from M. D. Ewell. Spencer 1-10 and Bausch & Lomb Amplifier. 1 div. of filar micrometer=.000001 inch

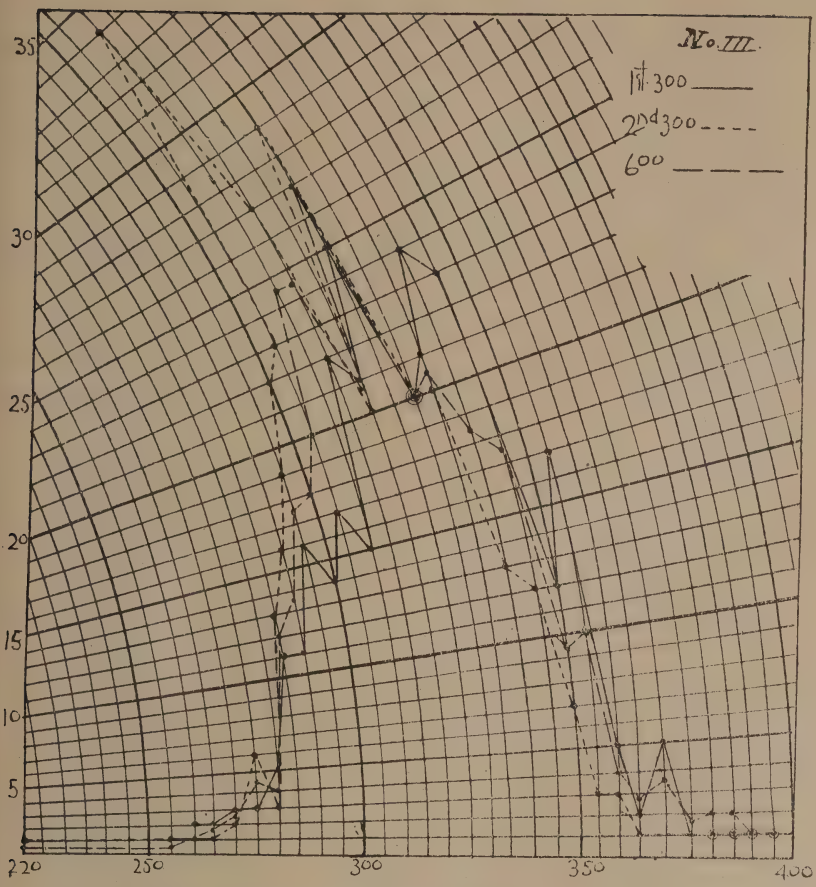
Mean of 1st 100	=.000322	=8.18	mikrons.	Mean of 6th 100	=.000318	=8.05	"
" 2d "	=.000324	=8.23	"	" last 50	=.000313	=7.95	"
" 3d "	=.000321	=8.15	"	" 650 corpuscles (corrected)	.000316	=8.03	"
" 4th "	=.000315	=8.99	"	Largest corpuscles of the 650	=.000393	=9.98	"
" 5th "	=.000316	=8.03	"	Smallest " " "	=.000198	=5.03	"



Each vertical space=one corpuscle, except in case of the last 50, where two spaces=1 corpuscle.
Each horizontal double space=10 divisions of the micrometer.



No. II. The first 600 corpuscles of the 650 platted in No. I. Spencer 1-10, etc.
1st 200 mean.....=.000323 inch.....=8.20 mikrons.
2d " .....=.000318 " .....=8.01 "
3d " .....=.000317 " .....=8.05 "
Each space horizontally=5 divisons of the micrometer.
Each space vertically=1 corpuscle.



No. III. The same 600 red corpuscles. Spencer 1-10, etc.

1st 300 mean.....=.000322 inch.....=8.18
2d " .....=.000316 " .....=8.01
600 mean.....=.000319 " .....=8.10

Each horizontal space=5 divisions of the micrometer.
Each vertical space=2 corpuscles.

We are not aware that this knowledge has thus far been of the slighest use in medico-legal investigation, but it may become so, as the histological studies of blood by this author are of the greatest value.

I shall conclude this short paper with a few replies received from scientists to whom I wrote for their views upon the question of whether there was any means, now known to science, to enable the observer, by the microscope or in any other manner, to distinguish between the blood of man and the domestic animals, and notably those mammalia whose red corpuscles approximate nearest to those found in human blood.

Prof. Marshall Ewell, President of the American Microscopical Society, replied as follows:

CANTON, O., May 4, 1892.

My Dear Sir:—I had occasion, as an expert in the celebrated case of the murder of Dr. Cronin, to examine the question proposed for discussion, and came to the conclusion, which I have since seen no reason for modifying, that it is impossible by any means at present known to science to discriminate between dried human blood and that of the dog, rabbit, guinea-pig, or of any other domestic animal. My reasons for this opinion are given at length in a paper entitled "A Micrometric Study of 4,000 Red Blood Corpuscles in Health and Disease," a copy of which I have contributed to the Medico-Legal Society, and which is published in No. 2, Vol. 10, Medico Legal Journal.

My experience in the subject of microscopy, in which I have specialized for the last eight years, leads me to the conclusion that there is not only no advantage in the use of very high powers (1-25 or 1-50), but a positive disadvantage, if the power is so high as to impair the definition, as appears to have been the case in the work recorded in the monograph of Dr. Formad, judging from his published engravings. Dr. Formad, of Philadelphia, in that paper, appears to me to have misquoted authorities to such an extent as to lead me to repose no confidence whatever in his published results.

I know of no new advance in science in relation to the identification of blood stains since the publication of my paper above referred to.

Respectfully yours,

M. D. EWELL.

Dr. Robert Reyburn, of Washington, D. C., Vice-President American Microscopical Society, was present and took part in the discussion of the paper. He said:

The question of the method of distinguishing between the blood corpuscles of man and the ordinary domestic animals is one of great forensic importance, and has also been one of the most vexed questions in microscopical science.

The human red blood corpuscle, or cell, as is well known, is a circular disc, which is bi-concave, or hollowed inwards, on both its surfaces. When seen singly they are of a yellow hue, though in quantity, as seen in the arterial blood, they are of a scarlet red color.

We have also existing in blood the white corpuscles, which are slightly larger than the red, being 10 to 12 microns, or 1-2750 to 1-3000 of an inch in diameter, and also the blood plates, or tablets of Bizzozero, which are from 2 to 3 microns, or 1-8000 of an inch in diameter, one-third the size of the red corpuscles ; however as these component parts of the blood do not offer any satisfactory means of identification in blood stains, or clots, it will not be necessary to dwell farther upon them.

The human red blood corpuscle varies for 7.9 microns, or 1-3200 of an inch, to 6.9 microns, 1-3500 of an inch, in diameter, and are about one-fourth that in thickness (or 1 9-10.)

The variation in size of the corpuscles will rarely vary more than from 10 to 12 per cent. of the number of any blood corpuscles in any specimen of human blood. Examined we will find from 80 to 90 per cent. of the number of human corpuscles present of the average size, viz : 1-3200 to 1-3500 of an inch.

Dr. Formad, in his Monograph (Comparative Studies of Mammalian Blood), gives the following coparative measurements of blood corpuscles : Man, 1-3200 of an inch ; guinea pig, 1-3400 of an inch ; wolf, 1-3450 of an inch; dog, 1-3580 of an inch; rabbit, 1-3662 of an inch; ox, 1-4200 of an inch; pig, 1-4250 of an inch; horse, 1 4310 of an inch; sheep, 1-5000 of an inch; goat, 1-6100 of an inch.

After giving these various dimensions of the blood corpuscles of different animals, the question naturally arises: Where is the difficulty in measuring these ? Can we not, by the accurate micrometers and microscopes we now possess, measure them just as accurately as the carpenter measures any square surface by the use of a rule or tape measure ? This, however, is not the real difficulty. Our instruments of precision are amply capable of meeting the exigencies of the case, but the difficulty lies in an entirely different direction.

The trouble in our investigation of this subject lies in the fact that the blood corpuscles are living organisms that are not possessed of outlines delineated with mathematical accuracy.

They vary in the same animal, and in different species of the same animal, to such a degree as to greatly impair the accuracy of the deductions to be drawn from even the most accurate series of measurements.

Dr. J. G. Richardson, in papers published in *American Journal of Medical Sciences*, July, 1869, page 50, and July, 1874, page 102, states, as the result of his investigation, that he could invariably distinguish between the dried blood corpuscles of the man and the sheep when so situated that he could not know from what source they were derived.

He states (page 106 A. J. M. Sciences, July, 1874, or the 16th May, 1874,) my friends, Prof. J. J. Reese and D. S. Weir Mitchell, prepared for me these three packages of dried blood, from stains made by sprinkling the fresh fluid (blood) from an ox, a man, and a sheep on white paper.

These stained pieces of paper were numbered 1, 2, and 3, respectively, and given to Dr. Richardson to examine, and he succeeded perfectly in distinguishing the source from which they came by the use of the microscope.

Dr. J. J. Woodward (A. J. M. Sc. Jan., 1875, p. 151,) controverts the arguments of Dr. J. G. Richardson, and states that he believes it to be impossible to distinguish between the blood corpuscles of man and several of the domestic animals ; though he confines his argument more especially to the similarity in size of the blood corpuscles of the dog to those of man.

He states (p. 158) that on making each measurement of blood containing 50 corpuscles from as many men their sizes ranged from 7.72 microns to 7.54 microns.

He compared these measurements with nine specimens of blood of different species of dogs, measuring 50 corpuscles each time, and found their sizes to range from 7.42 microns to 7.37 microns.

These measurements are so nearly alike that they seem to be practically identical, and the known accuracy and skill of Dr. Woodward gives his opinion great weight.

He further says, (p. 156,) "For myself, after repeated measurements of the blood of the dog and human blood, I can only say that I find no constant difference between them, whether the fresh blood or thin layers dried on glass be selected for measurement."

The mean of 50 corpuscles taken at hazard is seldom twice the same, and sometimes that of human blood, sometimes that of dog's blood, is a trifle the largest.

In his Monograph, Comparative Studies of Mammalian Blood (p. 19 and 47), Dr. Henry F. Formad has shown, however, that the measurements given by Dr. Woodward were erroneous and misleading, and would not now be accepted by any haematologist of the present day.

Dr. Alexander Eddington, in a paper published in the *British Medical Journal*, 1890, (p. 1233,) gives an interesting account of the present state of our knowledge regarding the blood, and gives his own observations upon the subject. He shows the very varying sizes of the human red blood cells and the readiness with which this variation takes place.

There is namely a distinct variation in the aggregate size between meals, the minimum occurring soon after a meal, while the maximum is seen at the end of a period of fasting. He also states the red blood corpuscles are diminished in size at the termination of an acute fever, after an exanthematous disease (such as scarlet fever or measles), while they are the largest during the fever. They are small in septic conditions, such as pyemia and erysipilas, which have lasted some time.

F. Detmers (Proceedings of American Society of Microscopists, 1887, p. 216,) has given a valuable series of measurements of blood corpuscles, from which I extract the following, (Ibid, p. 219): "After carefully examining the specimens of blood I can assert, without fear of contradiction, that

there can be no question but the blood of human beings can be readily distinguished from that of such animals as the mule, cat, calf, horse, etc., and still more readily from cattle, sheep, and pigs."

Dr. Formad (Ibid, p. 20) calls attention to the great value of photographs taken of blood corpuscles under very high magnifying power, such as ten thousand diameters. Under such magnification the differences between the differences in sizes between those of man, dog, ox, sheep, and goat, become readily distinguishable by the naked eye.

The following seems to me to represent the present state of our knowledge of blood stains from other stains with which we might be confounded:

1. Blood stains can be certainly and absolutely differentiated from stains produced by other colored fluids, by the presence or absence of the red blood corpuscles.

2. The blood corpuscles of birds, fishes, and reptiles, being oval and nucleated, can never be mistaken for those of human blood.

3. If the average diameter of the blood corpuscle in any specimen of blood (containing at least one hundred, and better five hundred corpuscles,) is less than 1-4000 of an inch, it cannot possibly be human blood.

4. If the blood corpuscles have an average diameter of from 1-3200 to 1-3300 of an inch, then *it is human blood*, (excluding the blood of the beaver, guinea pig, kangaroo, monkey, muskrat, porcupine, seal, or wolf.) None of these are domestic animals, and stains produced by their blood can scarcely ever be met with under such circumstances as to be confounded with stains of human blood.

5. The blood corpuscles of the dog 1-3580, rabbit 1-3662, ox 1-4200, pig 1-4250, horse 1-4310, sheep 1-5000, goat 1-6100, can, by the use of high magnifying power, and the careful counting of 100 to 500 corpuscles, be differentiated from human blood corpuscles, both in recently shed blood and dry blood stains.

The late gifted Prof. Henry F. Formad replied under date of May 9, 1892, upon the subject, as follows:

3535 Locust St., Philadelphia, Pa., 5-9-'92.

Clark Bell, Esq.:

My Dear Sir:—I have written lately on blood and blood stains, but cannot lay my hands just now on these recent publications. I send you with this mail a copy of one of my monographs on blood and blood stains, which is the most complete one on the subject written either by myself or anyone else of late years. From the perusal of this monograph you will glean to your satisfaction what is known to the present day upon this intricate subject.

Nothing new has been done on blood stains since the writing of this article.

Our methods of investigating blood are, however, improving step by step with the improvement of the microscope and the modern appliances of the same. What was impossible to do ten or twenty years ago, viz: the distinction between the different size of corpuscles, is at present a comparatively easy matter. The older statements that human blood cannot be

distinguished, even in its dried state, from that of the ordinary domestic animals, is erroneous.

There is difficulty of telling human blood from that of the guinea pig, opossum, dog, rabbit, or monkey, and certain wild animals, but there is no difficulty at all of discriminating the blood of the "ox" species, pig, horse, sheep, goat (even in its dried state), from that of man, on account of the musch smaller measurements of the blood corpuscles. * * *

I will say, in conclusion, that whereas it is impossible to say with certainty that any given blood stain, new or old, is due to human blood, it is quite possible to state that it is the blood of a mammal, and that it is consistent with human blood, and that it is not the blood of certain domestic animals. For details about this question I must refer you to my monograph, now in your hands. I much regret I will be unable to be present at the reading of your paper on this subject, but I hope to see it in print.

Dr. R. J. Nunn, of Savannah, Ga., an experienced observer, and one of the Vice-Presidents of the American Microscopic Society, replied as follows:

119 York St., Savannah, Ga., May 9, 1892.

Clark Bell, Esq.,
President Medico-Legal Soc.,
57 Broadway, N. Y.,

Dear Sir:—Of the possibility of distinguishing between the blood of animals and of man, I have not the least doubt, but that it is always successfully done I very much doubt; nor do I think that the differenitation should be built upon one characteristic alone, and, further, it will require special training and enormous practice, to reduce the observation to anything like certainty.

In a medico-legal aspect, I think such observations should only be regarded as confirmatory, as should be the case with all delicate scientific investigations. The improved scientific observations of to-day too often refute the certainties of yesterday, and remove them from the domain of positive evidence.

Dr. Ira Van Giesen, of the Pathological Laboratory of the N. Y. College of Physicians and Surgeons, N. Y. City, a very careful student of the science, replied as follows: (He was present at the session and took part in the debate.)

I have always felt wholly unable to distinguish dried up human blood from the domestic mammalia with the microscope, simply because the red blood cells swell up so irregularly that measurements are unreliable. Nor do I know of any other way of settling this question.

I shall endeavor to be present at the meeting of May 11th, and thank you for your kind invitation to the same.

Dr. F. W. Draper, of Boston, an experienced observer, replied as follows:

My opinions on the subject of the value of expert testimony concerning the identification of human blood stains cannot be better expressed in a few words than by making use of a quotation from Formad's valuable monograph. He writes, after full discussion of the views of various authorities : "If the testimony is, as customarily, worded : 'The blood is consistent with human blood," it is usually quite satisfactory to the prosecution, and is an expression sufficiently guarded." Beyond this point, I do not think science is at present prepared to go.

Prof. Wormley, of the University of Pennsylvania, replied as follows :

PHILADELPHIA, May 6, 1892.

CLARK BELL, ESQ. ;

Dear Sir :—In reply to your kind invitation, it would give me much pleasure to hear your paper on "Blood and Blood Stains," on the 11th inst., but a previous engagement will prevent my being present.

The results of my own investigations upon this important subject are so fully expressed in my article upon this subject in the Micro-Chemistry of Poisons, that I have nothing special to add.

I am, very truly yours,

THEO. G. WORMLEY.

Dr. Charles Heitzman, of New York, an experienced microscopist, replied as follows :

My experience is limited to the blood of the ox and the dog, as compared with human blood, especially also in a dry condition. As to their discrimination, the results of my observation are negative, viz : I would be unable to positively tell a difference between the blood corpuscles of man and the named animals.

Thanks for your kind invitation, but my evenings are taken up by labratory work, and I could not promise to be present.

MICROMETRY.

The most important factor in accurately determining the exact measurements of the diameters of blood corpuscles is the micrometer.

It is not from the microscope or its teachings that differences have arisen, and concerning which divergences of views occur among observers.

It must be considered and remembered that the claims of discrimination as to the size of the red blood corpuscle in the various animals rests upon the accurracy and reliability of the measurement of mean diameters.

A brief statement of the methods employed in reaching the results that have been generally accepted as standard and reliable mean measurements will throw light upon the subject, and at the same time illustrate the views of those who differ so widely as to the reliability of attainable results. The methods employed by observers must have great weight in determining the value and accuracy of results.

FORMAD'S METHOD.

Place a drop of blood upon a slide, and quickly draw the edge of another slide across the field in such a manner that the corpuscles become as evenly distributed as possible between the slides.

Then use a good microscope, provided with a homogeneous immersion lens, and two micrometers, the one a stage piece, the other an eye piece micrometer.

The stage micrometer is used to establish the correct value of the lines ruled on the micrometer, and consists of a glass slide ruled to a scale either in M. M. or fractions of an inch. The English standard slides are ruled by a series of lines 1-100 of an inch apart, one of these divisions having further subdivisions into thousandths of an inch, and in some still smaller subdivisions.

Of course all depends upon the absolute correctness of these rulings, and they should be carefully tested before using.

The safest way is to use a high power compare one division with another carefully, and note the discrepancies, using only such as are exact and precisely correct. The eye piece micrometer is a slip of glass with fine lines ruled to a uniform scale, which fits into the eye piece of the microscope.

When in position the stage micrometer notes how many of the divisions on the eye piece micrometer are required to

fill one of the divisions of the stage micrometer; for example, if a 1-12 Zeis's hom mer lens is used, and under this amplification, the 1-000th of an inch division of the stage and scale covers exactly twenty places in the eye piece scale, then each division of the eye piece micrometer will be equal to the 1-20000th of an inch.

The higher objectives will increase the value of the divissions; lower ones will decrease them, but that under all circumstances the same conditions must be observed.

When thus adjusted, bring the slide containing the drop of blood into focus under the eye piece micrometer, previously adjusted, and observe the number of division or fractions of a division of the eye piece micrometer that a corpuscle may occupy.

For example, if it should fill exactly four spaces, then its value would be under 1-20000th of an inch. Standard 4-20000 or 1-5000 of an inch.

Measure one hundred corpuscles in this manner, taking actual measurements and noting them, and from different slides that have been tested, and then take an average of the result. The measurements should be made only of perfectly round bi-concave corpuscles, and carefully recorded. All small or crenated blood corpuscles should not be counted.

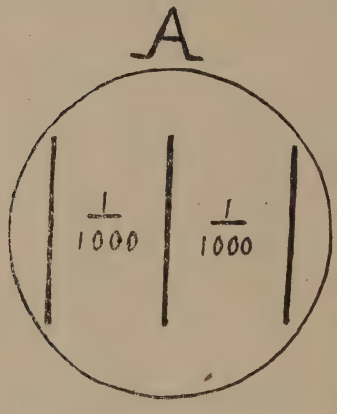
Dr. Carl Seiler, of Philadelphia, introduced the micrometry of blood corpuscles from photographic negatives, which has also been done by Dr. Woodward, of U. S. N.

The plan is to mount the blood directly upon a glass stage micrometer and to photograph them with any desired amplification, both blood and micrometer appearing sharply defined in the picture. The measurements are then made directly upon the negative.—(Formad's Comparative Studies of Mammalian Blood, pp. 7 and 8.)

PROF. EWELL'S METHOD.

Prof. Ewell is the President of the American Society of microscopists, and he kindly furnished me with his method of making microsmetric measurements.

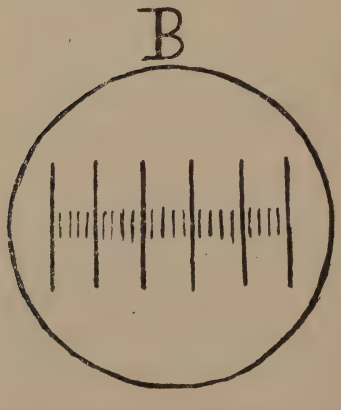
He says: "The first requisite, of course, in making measurements of a microscopic object, is a correct standard of length; which may be either the 1-1000th or some other minute fraction of an inch, or the one 1-100th or other fraction of a millimeter.



The corrections of the standard used should of course be ascertained.

We will assume that the standard used is the 1-1000th part of an inch, and when viewed under the microscope the image appeared to be as shown in Fig A.

In the eye piece of the microscope is another scale, ruled to any convenient fraction of an inch, say to the 1-1000th part of an inch, with the fifth and tenth line longer. *Vide* Fig. B.



On looking through the microscope at the 1-1000th of an inch on the stage, we see projected upon it, in the same field, the image of the lines ruled upon the glass circle in the eye piece. *Vide* Fig. C.

We will suppose that twenty spaces of the eye piece

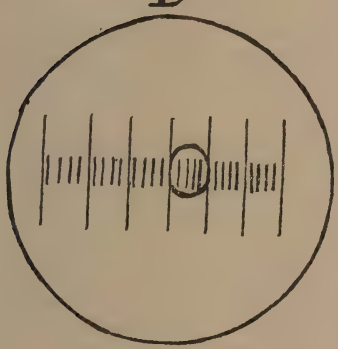
micrometer exactly coincide with the terminal lines of the 1-1000 of an inch, as shown in the figure C.

We then know that each one of the finer divisions of the eye piece micrometer represents a length equal to the 1-20th of 1-1000th of an inch, or the 1-20000th of an inch. Now suppose the stage micrometer to be removed, and any microscopic object, as for example a blood corpuscle, the diameter of which we wish to measure, to be substituted in its place, and to appear to subtend five divisions of the eye piece micrometer, as shown in Fig. D.

C

We then know that the diameter of the blood corpuscle is 5-20ths of an inch, or the 1-4000th part of an inch.

D



This is the simplest manner, and I may add a very reliable manner, when used with high powers, of making micrometric measurements.

My experience shows, that with very high powers, substantially the same results can be obtained in this manner as by the use of the most elaborate means, namely: The filar micrometer, which consists of a cob-web moved across the field in the focus of the eye piece, by a very fine screw, with an index head divided into 100 equal parts."

This contribution is made to scientists and medico-legal jurists throughout the whole world, to invite discussion and

original research upon this subject, so important to the administration of justice in the criminal courts of all countries where persons charged with homicide are guilty or suspected, and the evidence of blood on garments or weapons require the examination of the scientific medico-legal jurist.

NOTE.

At the discussion of this paper before the Medico-Legal Society the consensus of opinion favored the following propositions:

1. That there was no great difficulty in distinguishing between human blood and that of birds, fishes, and amphibia generally.

2. That by careful and competent observers, with instruments of high power, a reliable discrimination could be made between human blood and the blood of mammals, when the size of the red blood corpuscles was much smaller than that of man, notably the ox, the horse, the goat, the sheep, the pig, and most mammals.

3. That the blood of the dog, the rabbit, and the guinea pig, so nearly resemble human blood in the size or diameter of the red corpuscles that it was exceedingly difficult, if not impossible, to distinguish between them, and divided opinions upon this subject exists among observers, Prof. Reese, Formad, Reyburn, and others claiming that by the employment of high powers, up to 10,000 diameters, the difference in diameter becomes so great when thus magnified as to make it apparent in all mammals except the guinea pig and opossum; while Prof. Ewell and others deny that the results of these investigations are such as to make it certain and absolute when, in doubtful cases, human life is at stake.

4. All concur in the safety of the careful microscopist, who asserts positively "*That the blood examined is consistent with human blood,*" if unwilling to state positively that it is such, or who agrees with the dictum of Prof. Wormley in his masterly treatise that "*The microscope may enable us to determine with great certainty that a blood is not that of a certain animal and is consistent with the blood of man.*" Although some might agree and some dissent from the same author's assertion added to the above quotation: "*but in no instance does it in itself enable us to say that the blood is really human, or indicate from what peculiar species or animal it was derived.*"

LEGITIMACY.

BY CLARK BELL, ESQ.

The law upon the subject of Legitimacy may be stated thus:—

Legitimacy is the state of being born in wedlock—that is, in a lawful manner, or in accordance with law; Bouvier's Law Dictionary, tit. 2, p. 67; Anderson's Law Dictionary, 611; Campbell's Case, 2 Bland Ch. (Md.), 36.

An illegitimate child is one born out of wedlock, or not within competent time after termination of coverture; or if born out of wedlock, whose parents do not afterwards intermarry and the father acknowledge it, or who is born in wedlock where procreation by the husband is impossible: Smith *v.* Perry, 80 Va., 563.

By the common law the subsequent marriage of parents does not legitimize children born out of wedlock before marriage, but in many of the American States the subsequent marriage of parents works by statute the legitimacy of the child, notably Arkansas, Georgia, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Pennsylvania, New Hampshire, Texas, and Virginia. A child born after marriage, no matter how soon, is born in wedlock, and presumed to be legitimate, and all children born in wedlock are presumed in law to be legitimate: Bouvier's Institutes, 322; State *v.* Romaine, 88 Iowa, 48; Rhine *v.* Hoffman, 6 Jones Eq., 335; 1 Rolle Abr., 358; 2 Bac. Abr., 84; Rex *v.* Reading, Lee Temp. Hardw., 83; King *v.* Luffe, 8 East., 193, Lord Ellenborough, Justice, sustained by authorities in many American States: State *v.* Herman, 13 Ired. (N. Car.), 502; State *v.* Romaine, 58 Iowa, 46.

Where the mother has lived and cohabited with the father, and has been recognized by him as his wife and the child as his offspring, in the absence of any proof to the contrary, even though there be no evidence of a legal marriage, the law presumes the issue to be legitimate: Taylor on Evidence, Text-Book Series, § 649; Hargrave *v.* Hargrave, 2 C. & Kir., 701; Shotle *v.* Magervan, 2 Bush. (Ky.), 627.

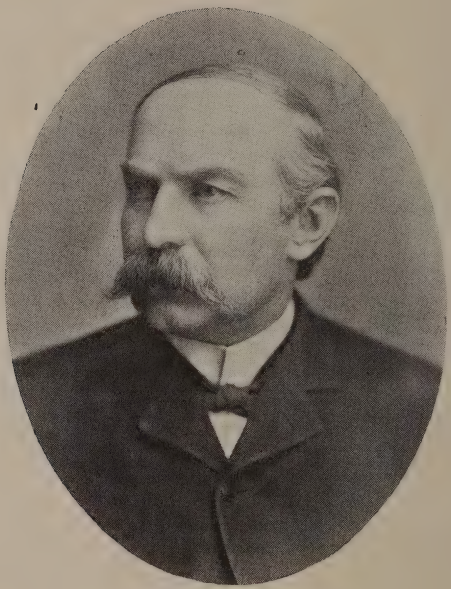
These presumptions may, however, be rebutted, on showing:—

1. That the husband was impotent or incompetent, by Lord Ellenborough, Justice, in King *v.* Luffe, 8 East., 207; Head *v.* Head, 1 Sim. & Stu., 150; Cross *v.* Cross, 3 Paige Chan. (N. Y.), 139; 23 Am. Dec., 778.

2. Positive absence of the husband during the period in which the child must, in the course of nature, have been begotten, or his death, or non-access: King *v.* Luffe, *supra*; R. *v.* Allerton, 1 Ld. Raymond, 395; Banbury Peerage, answer to 7th question, 1 Sim. & Stu., 157; State *v.* Britt, 78 N. Car., 439; Cope *v.* Cope, Alderson B, 1 En. & Rob., 275; Benny *v.* Philpot, 2 Myl. & K., 349; Com. *v.* Strieker, 1 Browne (Pa.) Appx., 47; Wilson, *v.* Babb., 18 S. Car. 59; Hargrave *v.* Hargrave, 9 Beav., 255.

By common law, if the husband was within the four seas at any time during the pregnancy of the wife, the presumption was conclusive that the issue was legitimate: R. *v.* Murray, 1 Salk., 122; R. *v.* Allerton, 1 Ld. Raymond, 122.

While the ancient policy of the English common law remains unchanged, the courts have in modern times taken evidence, which, if absolutely conclusive of non-access and free from all doubt, modified the old rule: Head *v.* Head, 1 Sim & Stu., 160; Am. and Eng. Encyclopædia of Law, note under Legitimacy, p. 225.



HON. WM. P. LORD,
Chief Justice of Oregon.

CRIMINAL RESPONSIBILITY OF THE INSANE HOMICIDE.

A wide divergence of opinion exists in the American States as to the legal effect of the answers of the English judges to the questions propounded by the House of Lords in the excitement growing out of the McNaghten Case in 1843.

1. It must be conceded that these judicial responses were the mere expressions of the individual opinions of the judges, and not decisions by a court of competent jurisdiction pronounced in a case before them; in other words, that they are mere *obiter dicta*, and of no binding effect upon any court in England or elsewhere. Sir James Fitz James Stephen has well said concerning them: "That they were mere answers to questions which the judges were probably under no obligation to answer, and to which the House of Lords had probably no right to require an answer, as they did not arise out of any matter judicially before the house:" Stephen's Hist. Crim. Law of England, vol. 2, p. 154.

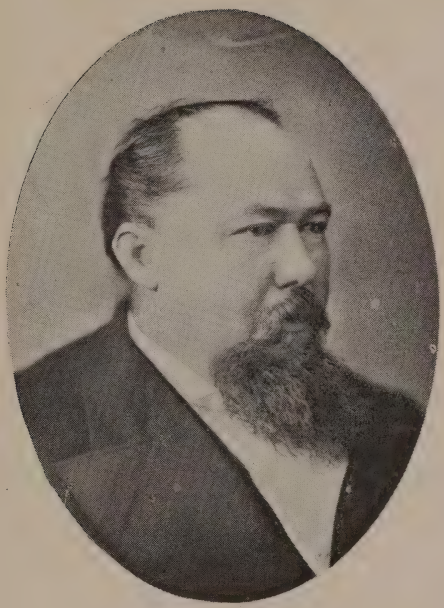
2. While these answers have been by common usage usually followed by the English trial judges, it is a significant fact that they have not received the approval of the High Court for Crown Cases reserved.

3. The conviction of insane homicides in such cases as those of Goldstone and Cole in England, and of similar cases in some of the American States, when judges have followed the *dicta* of the judges, upon what has been commonly known as the *Right and Wrong Test*, has led to a strong revulsion of feeling against that doctrine, both in England and

in the American States. The medical profession of England instantly protested against the answers of the English judges, by the resolutions adopted July 11, 1844, at the session of the British Association of Medical Superintendents, which was the year after the answers of the English judges were made. In some of the American States the *dicta* of the English judges were followed, notably New York, Pennsylvania, Massachusetts, Michigan, Alabama, Ohio, and other States. Writers and jurists denounced the "Right and Wrong Test' on both sides the Atlantic: Brown's Med. Juris., §§ 18 *et seq.*; Wharton & Stille, § 59; Bishop Crim. Law, 7th ed., §§ 386 *et seq.*; Wharton's Crim. Law, §§ 33 *et seq.*; Ordronaux on Insanity, 419; Ray Med. Juris., 16–19; Bucknell & Tuke, p. 269; Bell, Med. Leg. Jour., vol. 2, p. 339; the same, Med. Leg. Jour., vol. 7, p. 88.

In August, 1833, an act of Parliament was passed in England declaring that if the homicide was insane at the time he committed the act a special verdict should be found by the jury.

5. In the American courts the soundness of the doctrine of the *dicta* of the English judges has been severely criticised, and overruled, if an *obiter dictum* of a court can ever properly be regarded as overruled. The most notable case was that of State *v.* Pike, in which Chief Justice Doe, of the Supreme Court of New Hampshire, wrote the masterly opinion of the whole bench, repudiating the doctrine contained in the answers of the English judges: 49 N. Hamp., p. 399; 50 N. H., p. 369. Similar decisions followed in the Supreme Courts of Kentucky (Kried *v.* Com., 5 Bush. (Ky.), 362; Smith *v.* Com., 1 Duv. (Ky.), 224); in Virginia (Dejarnette *v.* Com., 75 Va., 576); in Mississippi (Cunningham *v.* State, 56 Miss., 269); in Connecticut (State *v.* Johnson, 40 Conn., 136; Anderson *v.* State, 43 Conn., 514); in Iowa (State *v.* McWhorter, 46 Iowa, 88; State *v.* Fettes, 35 Iowa, 68); in Illi-



HON. REUBEN S. STRAHAN,
Ex-Chief Justice of the Supreme Court of Oregon.

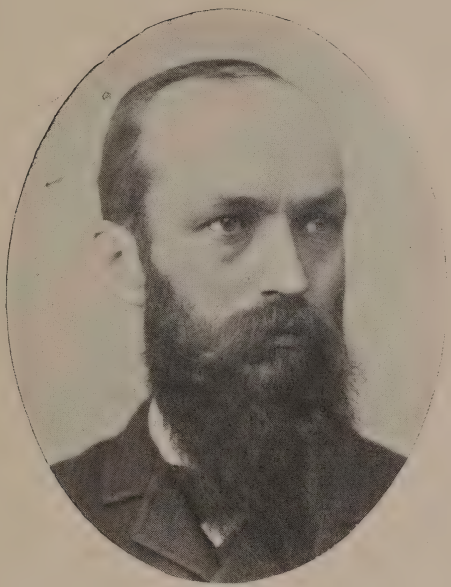
nois (Hopp *v.* People, 31 Ill., 385); in Indiana (Bradly *v.* State, 31 Ind., 492); in Texas (Harris *v.* State, 18 Texas Ct. of App., 87); in Pennsylvania (Coyle *v.* Com., 100 Pa., 573); in Georgia (Robets *v.* State, 3 Ga., 310); in Massachusetts (Com. *v.* Rogers, 7 Metc., 500); in the District of Columbia, People *v.* Daly (reported in Med. Leg. Journal, vol. 7, Sept. No.) and more recently in the notable case of Parsons *v.* State, where Somerville, Justice, wrote the opinion of the bench of the Supreme Court of Alabama, a masterly and exhaustive treatise upon the whole subject, distinctly overruling the doctrine as answered by the English judges (which is, as was Chief Justice Doe in the New Hampshire cases, a leading case, and is reported in full in the September No. of vol. 7 of Medico-Legal Journal). Mr. Justice Stone wrote a dissenting opinion as to certain propositions, but not upon the main question, and upon the "right and wrong" theory he did not dissent.

6. The acquittal of Hadfield in England, defended by Erskine, was within the doctrine, as stated in State *v.* Pike, in New Hampshire, and Parsons *v.* State, in Alabama. Lord Kenyon, one of the ablest of the English judges, acted and decided correctly, under the law of England, when he stopped the case before the witnesses for the defense were all sworn, and directed the acquittal, as matter of law, on the substantial doctrine of the decision as laid down in the Alabama case. In the case of McNaghten, the eminent judge who tried that case, correctly applied the law of England as it then existed and had been administered, in directing an acquittal, on the assent of one of the ablest law officers of the crown, Sir William Follett, who admitted, upon the appeal of Judge Tyndale, that he must submit to a verdict of acquittal on the ground of the defendant's insanity: (Serjeant Ballantyne, vol. 1, p. 246.) McNaghten was defended by Mr. Cockburn, afterward the Lord Chief Justice.

McNaghten did not even know Sir Robert Peel, nor Mr. Drummond, and he was, beyond all question, laboring under an insane delusion which dominated his action. His acquittal was correct under the law of England, but he would have been convicted under the recent *dicta* of English judges. It is doubtless true that the excitement of that era, which led to the extraordinary inquiry, may have largely influenced the English judges in framing their answers.

7. It may be claimed that the answers of the English judges did not correctly state the law of England, as it had before that time been administered in this respect, and notably in the case of Hadfield and McNaghten, the answers set up a new legal test or criterion, which upon trial has been found to be against the teachings of science and repugnant to and in conflict with the civilization of our age.

8. The action of the English Home Secretary and the law officers of the crown in recent cases, indicates a great change in English judicial views, and the course now taken in England of having a full and impartial inquisition in every case of suspected insanity, with competent experts, conducted by the government officials before the main trial, makes it extremely improbable that any insane homicide will be likely to be either convicted or executed in Great Britain in the near future.



HON. ROBERT S. BEAN,
Supreme Court of Oregon.

NON COMPOS MENTIS.

The words "*non compos mentis*" have received judicial interpretation. The doctrine of Lord Coke, "*total deprivation of sense*," is not now recognized by the courts, either in England or America, as correct in regard to what constitutes "*non compos mentis*:" Carew *v.* Johnston, 2 Sch. & Lef., 280; Browning *v.* Reane, 2 Phil., 69; Dew *v.* Clark, 3 Add. Ecc. 79, 87; Lord Tenterden in House of Lords in Mannin *v.* Ball, Smith & Batty, 183; Buswell on Insanity, § 5, § 6; Commonwealth *v.* Schneider, 59 Pa. St., 328; Commonwealth *v.* Haskell, 2 Brews., 491; although there has been a conflict of American decisions, the weight of American authority sustains the English doctrine laid down in Mannin *v.* Ball, before cited: Hale *v.* Hill, 8 Conn., 39; Dennett *v.* Dennett, 44 N. H., 531; Carmichael *in re*, 36 Ala., 514; Hovey *v.* Chase, 52 Maine, 304; Blanchard *v.* Nestle, 3 Denio, 47; Stanton *v.* Wetherwax, 16 Barb. (N. Y.), 259.

In New York, Massachusetts, and several of the American States, statutes have been passed defining the terms "insane person," "lunatic," "*non compos*," and "insane," so as to embrace all forms of insanity except "idiocy." In many of the American States the statute law has made the words "lunatic," "insane," and "*non compos mentis*" synonymous and convertible terms, and provided that these embrace all recognized forms or phases of insanity, so that at law it may be said that he is "insane," "a lunatic," or "*non compos mentis*," whose mind is affected by general fatuity or is subject to one or more specific delusions: Bushnell on Insanity, § 18. (Ib., p. 727.)

MORAL INSANITY IN THE COURTS.

There has been a conflict of opinions and decisions of the courts as to moral insanity. Some confusion has arisen as to what constitutes and what has been recognized by the courts as moral insanity. Mere beliefs, opinions, or prejudices, unless involving some insane delusion, do not constitute moral insanity. Opinions as to the *moral quality* of acts, unaccompanied by delusions which subvert the will and reason and dominate the conduct, do not constitute moral insanity. Moral perversity is not moral insanity. Moral insanity, as recognized by the courts, involves either a disorder of the brain, which affects the moral faculties, or produces an inability to discriminate between right and wrong, which has, as a disease of the brain, proceeded so far as to destroy the reasoning faculties of the mind and impair or destroy the volition. This has had judicial recognition in American courts: Com. *v.* Moster (GIBSON, C. J.), 4 Pa. St., 266; Forman's Will, 54 Bar., 274; Boswell *v.* The State of Alabama, 63 Ala., 307; Wharton Hom., § 584; St. Louis Mut. Life Ins. Co. *v.* Graus, 6 Bush., 268; Anderson *v.* The State, 43 Conn., 515; Buswell on Insanity, § 12; Ray's Contributions to Mental Pathology, 115; *per contra* State *v.* Spencer, 1 Zab., 196. (Ib., p. 726.)

INSANE DELUSIONS.

It may be said that both the English and the American courts, by a long line of decisions, have established the rule of law to be that, the presence or absence of delusion in the mind of the subject was the true criterion of the presence or absence of insanity in any case: Dew *v.* Clark., 3 Add. Ecc., 79; Wheeler *v.* Anderson, 3 Hagg Ecc., 574; McElroy's Case, 6 W. & S., 451; Am. Seaman's Fund. Soc. *v.* Hopper, 33 N. Y., 619; Duffield *v.* Morris, 2 Harr., 375; Sutton *v.* Sadler, 5 Harr., 459; Frere *v.* Peacock, 1 Rob. Ecc., 442; Stanton *v.* Wetherwax, 16 Barb., 259; Mullin *v.* Cottrell, 41 Miss., 291; Buswell on Insanity, § 14; Forman's Will, 54 Bar., 274.

The courts have made exceptions to this general rule, where "delusion" is not the criterion: 1. Insanity congenital "*ex nativitate.*" 2. Cases where the mind has become enfeebled, weakened, or disorganized, due to disease, or to the gradual development of senile dementia. The law now recognizes insanity as existing in certain cases without delusions: Nichols *v.* Binns, 1 Sw. & Tr., 239; Am. Seam. Fund *v.* Hopper, 33 N. Y., 619; Regina *v.* Shaw, L. R. 1 C. C., 145; Buswell on Insanity, § 16. (Ib., p. 728.)

MONOMANIA.—THE TERM SHOULD NOT BE EMPLOYED.

The use of the term *monomania* is misleading and improper. That term among judges, lawyers, and lexicographers has been understood to mean derangement concerning a single faculty of the mind, or with regard to a particular subject only, as defined by Webster. This has had judicial construction in the courts. Legally, *monomania* has been held to exist where the mind is deranged upon one subject, the insanity relating to one delusion, and retaining the other intellectual powers. It excuses only when this delusion leads to an insane impulse, which controls the will and judgment, obliterates the understanding of right and wrong, and results in the commission of an act which the accused was unable to resist, or to refrain from, and yielded to its domination: Stevens *v.* State, 31 Ind., 485; State *v.* Johnson, 40 Conn., 136; Com. *v.* Rogers, 47 Mass. (7 Metc.), 500; s. c. 1 Lead. C. C., 94; Brailly *v.* State, 31 Ind., 492; Com. *v.* Haskell, 2 Brewster (Pa.), 401; Com. *v.* Frith, 5 Clark (Pa. L. J.), 455; Life Ins. Co. *v.* Teny., 21 U. S. (15 Wall.), 580; on 21 L. Ed., 326; United States *v.* Hewson, 7 Bost. L. R., 361; Span. *v.* State, 47 Ga., 553; Roberts *v.* State, 3 Ga., 310; Hopps *v.* People, 31 Me., 385; State *v.* Felter, 25 Iowa, 67; Wesley *v.* State, 37 Miss., 327; Scott *v.* Commonwealth, 4 Met. (Ky.), 227; and as to responsibility: Com. *v.* Mosier, 4 Pa. St., 264; State *v.* Huling, 21 Mo., 464; Royce *v.* Smith, 9 Gratt. (Va.), 704; Rex. *v.* Offord, 5 Carr. & P., 168; Willis *v.* People, 5 Park. Crim. R. (N. Y.), 621; Reg. *v.* Burton, 3 Fost. & F., 772; Rex. *v.* Townley, 3 Fost. &. F., 839.

Among medical men and authors the term *monomania* means quite another thing, as was intended by Esquirol, its author, and so understood by all modern American, French, German, and Italian scientists and writers. Its use is, therefore, misleading, and it is now generally abandoned by the better medical authorities for that reason: Vid. Article Monomania, 2 Bell's Medico-Legal Studies, p. 101. Maudsley, Pliny, Earl, and many writers and observers deny the existence of an insanity limited to one subject, leaving the brain normal and healthy on all other subjects. For these reasons the term monomania should not be longer employed by medico-legal writers or in text-books. (Ib., 729.)

NOTE.—Although courts have held that insanity may exist where there is only one specific delusion, and the manifestations are limited to that one subject, with the mind clear and unimpaired on all other subjects, based upon the opinions of medical men and popular belief, alienists of the highest attainments and largest experience deny such a condition, and they are undoubtedly correct. If the brain is diseased to such an extent as to produce a state of insanity in any respect, it is difficult to conclude that the subject is sane in all other respects. (Ib., 734.)

DRUNKENNESS AS A DEFENSE.

The law as now settled in England and the American States may be stated as follows:

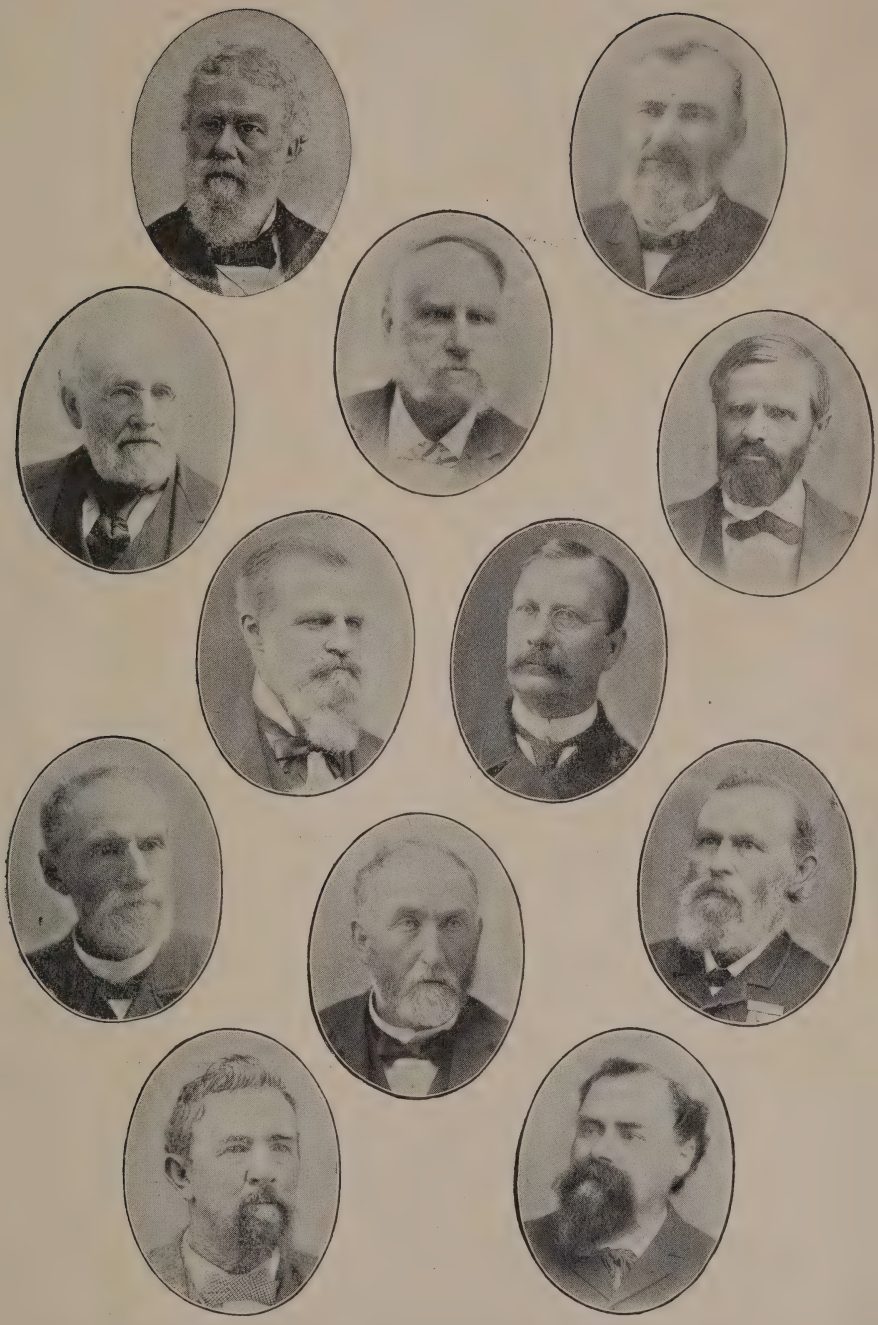
While drunkenness is not *per se* a defense upon a charge of crime, yet mental unsoundness, superinduced by excessive intoxication and continuing after it has subsided, may excuse; or where the mind is destroyed by a long-continued habit of drunkenness; or where the long-continued drunkenness has caused an habitual madness, which existed when the offence was committed, the victim would not be responsible. For if the reason be perverted or destroyed by a fixed disease, although brought on by his own vices, the law holds him not accountable:

Rex *v.* Meakin, 7 Car. & P., 297; Reume's Case, 1 Lewin, 76; Reniger *v.* Fogassa, Plow., 1; 1 Russ. on Crimes (9th ed.), 12; 1 Bishop Cr. L., (6th ed.) 406; 1 Wharton Cr. L., (8th ed.), sec. 48; McDonald C. L. of Scot., 16; 1 Hale, 4; Black. Com., 26; Beasley *v.* State, 50 Ala., 149; Peo. *v.* Odill, 1 Dak. Ter., 197; Estes *v.* State, 55 Ga., 30; Baily *v.* State, 26 Ind., 422; Roberts *v.* People, 10 Mich., 401; s. c. 19 Metc., 402; State *v.* Hundley, 46 Mo., 414; State *v.* Thompson, 12 Nev., 140; Lanergan *v.* People, 50 Barb. (N. Y.), 266; Maconnehey *v.* State, 5 Ohio, 77; Com. *v.* Green, 1 Ashm. (Pa.), 289; U. S. *v.* Forbes, Crabbe (D. C.), 558; Stuart *v.* State, 57 Tenn, 178; Carter *v.* State, 12 Texas, 500; Bell's Med. Jurisp. of Inebriety, p. 10, and cases there cited.

The rule of law is well settled that evidence of intoxication is always admissable to explain the conduct and intent of the accused in cases of homicide, although the rule does not apply in lesser crimes, where the intent is not a necessary element to constitute a degree or phase of the crime:

Bell's Med. Jur. of Inebriety, p. 10, and cases there cited.

In cases where the law recognizes different degrees of a given crime, and provides that wilful and deliberate inten-



GROUP OF EX-CHIEF AND ASSOCIATE JUDGES OF THE SUPREME COURT OF OREGON.

EX-JUSTICE M. P. DEADY. EX-CHIEF JUSTICE P. P. PRIM.
EX-CHIEF JUSTICE GEORGE H. WILLIAMS.
EX-CHIEF JUSTICE A. E. WAITE. EX-CHIEF JUSTICE E. D. SHATTOCK.
EX-CHIEF JUSTICE W. W. UPTON. EX-CHIEF JUSTICE B. F. BONHAM.
EX-CHIEF JUSTICE R. P. BOISE. JUDGE L. F. MOSHER.
EX-CHIEF JUSTICE W. W. THAYER.
JUDGE JOHN BURNETT. JUDGE L. L. McARTHUR.

tion, malice, and premeditation must be actually proved to convict in the first degree, it is a proper subject of inquiry whether the accused was in a condition of mind to be capable of premeditation:

Gray. J., in Hopt v. People, 104 U. S., 631; Buswell on Insanity. § 450; Penn v. McFall, Addison, 255; Keenan v. Commonwealth, 44 Pa., St. 55; Jones v. Com., 75 Pa. St., 403; State v. Johnson, 40 Conn., 136; Pirttle v. The State, 9 Humph., 663; Haile v. State, 11 Humphrey, 154; Smith v. Duval (Ky.), 224; Bosswell v. Com., 20 Gratt., 860; Willis v. Com., 32 Gratt., 929; People v. Belencia, 21 Cal., 544; People v. King, 27 Cal., 507; People v. Lewis, 36 Cal., 531; People v. Williams, 43 Cal., 344; Farrell v. State, 43 Texas, 508; Colbath v. State, 2 Tex. App., 391; State v. White, 14 Kan., 538; Schlacken v. State, 9 Neb., 241; 104 U. S.

The reason of this rule of law rests upon the fact that intoxication is a circumstance to be weighed in connection with the other circumstances surrounding the commission of the act in determining whether it was inspired by deliberate and malicious intent, and whether immediately before and at the time of his act the intoxication of the accused was so great as to render him incapable of forming a design or intent, which the jury must find from the facts in the case, without regard to opinions of others:

Buswell on Insanity, § 452; Marshall's Case, 1 Lew. Cr. Cas., 76; Thacher, J., in Kelly v. State, 3 S. & M. 518; Armor v. State, 63 Ala., 173; People v. Belencia, 21 Cal., 544.

And because, since he who voluntarily becomes intoxicated is subject to the same rules of law as the sober man, it follows: that where a provocation has been received which, if acted upon instantly, would mitigate the offence if committed by a sober man, the question in the case of a drunkenman sometimes is, whether such provocation was in fact acted upon, and evidence of intoxication may be considered in deciding that question:

Buswell on Insanity, § 423; State v. McCants, 1 Speer, 384.

The New York Penal Code defines precisely this question of responsility in that State in such cases as follows: "§ 22. Intoxicated persons.—No act committed by a person while

in a state of intoxication shall be deemed less criminal by reason of his having been in such condition. But whenever the actual existence of any particular purpose, motive, or intent is a necessary element to constitute a particular species or degree of crime, the jury may take into consideration the fact that the accused was intoxicated at the time, in determining the purpose, motive, or intent with which he committed the act."

DELIRIUM TREMENS.

The rule of law is well established, both in England and in the American States, that insanity produced by *delirium tremens* is a good defence to a criminal charge. Even if induced by intoxication, the victim is no more punishable for his acts than if the delirium had resulted from causes not under his control:

Regina v. Davis., 14 Cox C. C., 563; Bell on Med. Juris. of Inebriety, 9, and cases there cited; J. Crisp Poole, Med. Leg. Jour., vol. 8, p. 44; U. S. v. McGlue, 1 Curt. 1; Wharton's Crim. Law (8th ed.), sec. 48; People v. Williams, 43 Cal., 344; U. S. v. Clarke, 2 Cr. C. C., 158; Lanergan v. People, 50 Barb. (N. Y.), 266; s. c. 6 Parker Cr. R. (N. Y.), 209; O'Brien v. People, 48 (Barb.), 274; State v. Dillahunt, 3 Harr. (Del.), 551; State v. McGonigal, 5 Harr. (Del.), 510; Cluck v. State, 40 Ind., 563; Bradley v. State, 26 Ind., 423; O'Herrin v. State, 14 Ind., 420; Dawson v. State, 16 Ind., 428; Fisher v. State, 64 Ind., 435; Smith v. Com., 1 Duv. (Ky.), 224; Roberts v. People, 10 Mich., 401; State v. Hundley, 46 Mo., 414; State v. Sewell, 3 Jones (N. C.) L., 245; Cornwell v. State, Mart & Y. (Tenn.), 147; Carter v. State, 12 Tex., 500; Boswell v. Com., 30 Gratt. (Va.), 860; U. S. v. Drew, 5 Mason C. C., 283.

MEMORANDUM.

The rule of law govering memorandum may be stated as follows:

A memorandum is admitted in evidence only for the purpose of showing the existence of such facts or circumstances which it contains, and for no other purpose. And it is open to explanation to the same extent that it would be if the words had been spoken instead of being written.

A memorandum thus made in the usual course of business may be received in evidence, even though the witness is unable after its examination to state the particulars from recollection: Russell v. Hudson River R. R. Co., 17 N. Y., 134; Halsey v. Lursebaugh, 15 N. Y., 485; Guy v. Mead, 22 N. Y., 462; Howard v. McDonough, 77 N. Y., 592; Mayor of N. Y. v. 2d Av. R. R., 102 N. Y., 572.

But the witness must be able to state that he once knew the facts contained in the memorandum to be true; that he made it at or shortly after the time they transpired, which he then intended to make correctly and that he believes it to be correct, and he must also be able to verify the handwriting as his own, and the facts stated must be facts of his own knowledge and not on information derived from others: Haven v. Wendell, 11 N. H., 112; Sherr v. Wiley, 18 Pick., 558; Trinth v. Johns, 3 Gray (Mass.), 517; Crillueten v. Rogers, 8 Gray, 452; Stickney v. Bronson, 5 Minn., 215; Marely v. Schultz, 29 N. Y., 346; Nicoll v. Webb, 8 Wheaton (U. S.), 326; Ocean Nat. Bk. v. Caryle, 9 Hun (N. Y.), 239.

TENANCY BY THE CURTESY.

Tenancy by the curtesy, legally defined, is an estate for life created by the act of the law. When a man marries a women seized at any time during the coverture of an estate of inheritance in severalty, in coparcenary, or in common, and hath issue by her born alive, and which might by possibility inherit the same estate as heir to the wife, and the wife dies in the life-time of the husband, he holds the land during his life by curtesy: 4 Kent's Com., 13th ed., 25; Litt., § 35; 2 Blackstone, 126; 1 Bishop, M. & W., § 473; Heath v. White, 5 Com., 228; Rawlins v. Adams, 7 Md., 26; Carrington v. Richardson, 79 Ala., 101, *et seq.*

The law imposes four requisites before the husband can take by the curtesy, viz.: 1, there must be a legal marriage; 2, there must be seizin by the wife during coverture; 3, there must be issue capable of inheriting the estate; 4, the wife must be dead: Jackson v. Johnson, 5 Cowen (N. Y.), 74, 95, 102; s. c. 15 Am. Dec., 433; Hunter v. Whitworth, 9 Ala., 967; Furguson v. Tweedy, 43 N. Y., 543; Stewart v. Rees, 50 Miss., 776; Monroe v. Van Meter, 100 Ill., 347; Wheeler v. Hotchkiss, 10 Conn., 225; Withers v. Jenkins, 14 S. Car., 597; McDaniel v. Grace, 15 Ark., 465; Carpenter v. Garrett, 75 Va., 129–133; Winkler v. Winkler, 18 W. Va., 455.

The marriage must be a lawful one. If it be declared void during the wife's life the tenancy fails. If valid at the death of the wife the husband takes by the curtesy. It could not be declared void after her death to affect his right: Washburn on Real Prop., 5th ed., 172; Stewart on Husband and Wife, § 153; Wheeler v. Hotchkiss, 10 Conn., 225; Mattocks

v. Stearns, 9 Vt., 326; vid. also Smoot v. Leggate, 1 Stew. (Ala.), 590.

The wife must have been seized of the estate some time during coverture; it need not be at the time of her death or at the time of the birth of the child: Mercer v. Sheldon, 1 How. (U. S.), 37; McDaniel v. Grace, 15 Ark., 465; Withers v. Jenkins, 14 S. Car., 597; Upchurch v. Anderson, 59 Tenn., 410; Haynes v. Baum, 42 Vt., 686; Jackson v. Johnson, 5 Cow. (N. Y.), 74; Comer v. Chamberlain, 6 Allen (Mass.), 166.

Before the death of the wife, after marriage, birth of issue and seizin, the right of the estate by the curtesy is called "*initiate*," and it is contingent then on the death of the wife, and is then assignable: Rice v. Hoffman, 35 Md., 344; Foster v. Marshall, 22 N. H., 401; Winne v. Winne, 2 Laws (N. Y.), 439; Briggs v. Titus, 13 R. I., 136; Gardner v. Hooper, 3 Gray (Mass.), 438; Mechanics' Bk. v. Williams, 17 Pick. (Mass.), 438; Wicks v. Clarke, 8 Paige (N. Y.), 161; Van-Duger v. Van Duger, 6 Paige (N. Y.), 366.

After the death of the wife curtesy "*initiate*" becomes curtesy "*consummate*." The estate is then vested. It vests by operation of law and without assignment: Wheeler v. Hotchkiss, 10 Conn., 225; Watson v. Watson, 13 Conn., 83; Oldham v. Henderson, 5 Dana (Ky.), 254; Rice v. Hoffman, 15 Md., 344; Williams v. Perkins, 2 Me., 400.

In the American States this estate is greatly modified by State statutes. In some States it is abolished. In some, where the statutes are silent, the common law rule prevails, and in some States the common law rule is modified by st atute. Vid. Stimson on Am. Stat. Law, § 3,300, *et seq.* also Stewart on Husband and Wife, § 160.